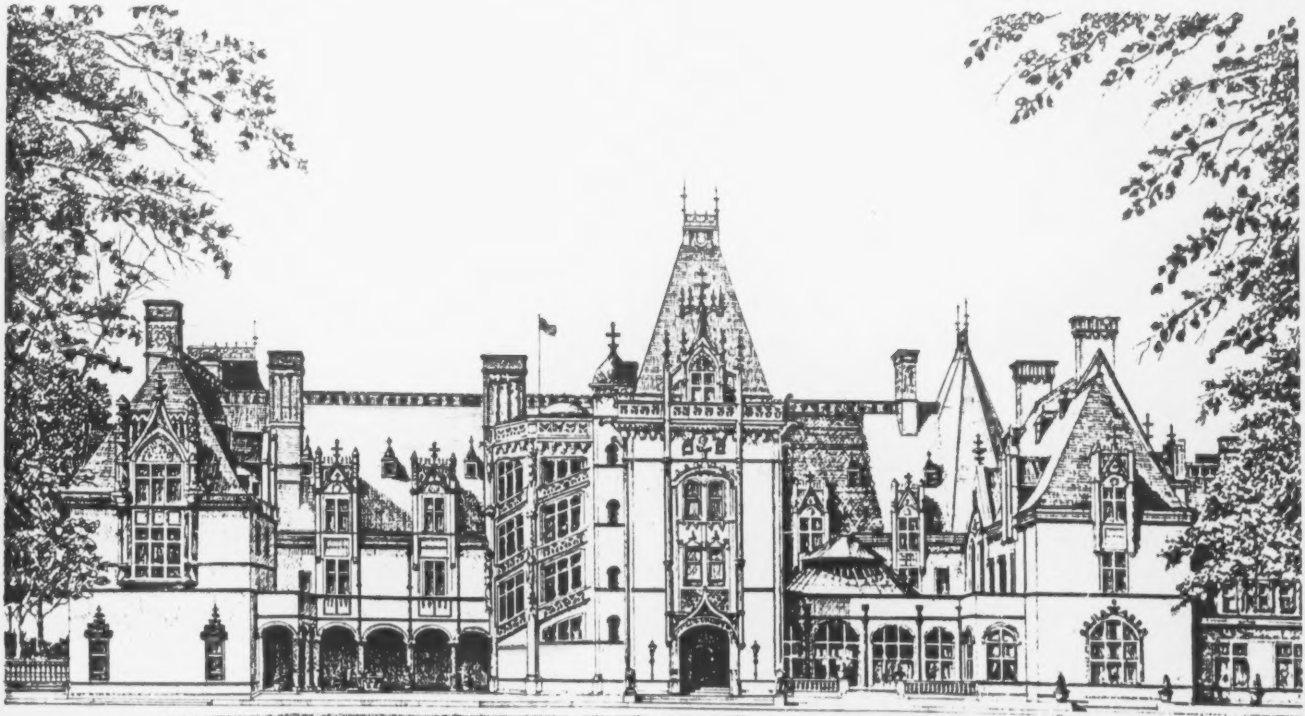
S5927-1.1-U

North Carolina VITAL STATISTICS 1988 Volume 1



THE BILTMORE HOUSE IN ASHEVILLE, NORTH CAROLINA

CENTER FOR HEALTH AND ENVIRONMENTAL STATISTICS

North Carolina Health Statistics Pocket Guide (Biennial):
Data for the U.S., South Atlantic Area, N.C. and N.C. counties are presented in tabular and narrative forms with more than 8,000 calculations depicting patterns of various needs indicators as well as births, deaths, abortions, diseases, immunizations, health care resources and other data from state and national reporting systems and surveys. This composite of information, contained in a compact foldout, will serve the needs of many if not most health data users.

North Carolina Vital Statistics, Volume 1: Population, Births, Deaths, Marriages, Divorces (Annual):
For the state and each Department of Human Resources (DHR) region, Health Service Area (HSA), Perinatal Care Region (PCR), county and major incorporated city, one-page tables summarize annual and 5-year data by race and selected variables. Maps, graphs and narrative describe geographical patterns and statewide trends.

North Carolina Vital Statistics, Volume 2: Leading Causes of Mortality (Annual):
For the state, DHR regions, HSA's and counties, cause-specific annual and 5-year data are given in the form of numbers of deaths, unadjusted death rates and age-race-sex-adjusted death rates. For each cause, maps depict 5-year adjusted and unadjusted county rates. Infant mortality and multiple conditions data are also tabulated and mapped.

Basic Automated Birth Yearbook, North Carolina Residents (Annual):
Known as the BABY BOOK, this statewide report is comprised of multiple cross-tabulations of various maternal and infant variables such as age, race, birth order, birth weight and number of prenatal visits. Data for DHR regions, HSA's and counties are available on microfiche.

Detailed Mortality Statistics, North Carolina Residents (Annual):
This statewide report provides annual counts of deaths specific for detailed underlying cause of death (4 digits) and age-race-sex group. Data for counties and HSA's are available on microfiche.

North Carolina Reported Abortions (Annual):
For the state, HSA's and counties, annual estimates of pregnancy rates, abortion rates and abortion fractions by age and race are followed by one-page tables displaying estimated counts and percentages of abortions by race, marital status and other characteristics of the abortee and abortion procedure. Maps, graphs and narrative describe geographical patterns and statewide trends.

North Carolina Birth and Infant Mortality Statistics, Volume I (Biennial):
For the state and each Perinatal Care Region (PCR) and county, one-page tables summarize annual numbers and multi-year numbers and rates for live births, fetal deaths, and matched neonatal and postneonatal deaths by race and each of infant's birthweight and selected maternal characteristics. Statewide trends are examined.

North Carolina Birth and Infant Mortality Statistics, Volume II (Biennial):
For the state only, numbers and percentages or rates by race depict trends in prematurity, age-specific infant loss by each of birthweight and cause of death, and 500-1499 gram births and neonatal deaths by level of hospital of birth. These statewide trends for 1975 forward are discussed.

North Carolina Communicable Disease Morbidity Statistics (Annual):
For the state, counties and 4 military bases, one-page tables display disease-specific counts for the current year and four prior years; current counts are race-specific. Tables, graphs and narrative describe statewide trends and age-race-sex patterns in reported cases and rates.

CHES Studies (Intermittent):
Studies on health topics of current interest are presented in newsletter form.

CHES Primer (Intermittent):
Short tutorials on statistical methods are presented in newsletter form.

An Inventory of North Carolina Health Data (Intermittent):
This publication describes by subject-matter category reported health data sets existing in public and nonpublic agencies. Included in the description are the data set's location, the data collection interval, the smallest unit of analysis, whether computerized, and the name of a contact person.

North Carolina Chartbook on Population and Health (Intermittent):
This book provides graphs and charts depicting the characteristics of North Carolina's population, health care resources, health care and health status.

Hospital Summary Report, N.C. Health Facilities Data Book (Annual):
Facility-level data are compiled from the annual license application, including beds by type, services with frequency of use, hospital personnel, and utilization statistics by age by service; over 500 pages; **cost: $15.50.**

Hospital Patient Origin Report, N.C. Health Facilities Data Book (Annual):
Facility- and county-level data are compiled from the annual license renewal application, including county patient origin for hospitals and hospital destination for county residents, by age and service; about 450 pages; **cost: $13.00.**

Nursing Home Summary Report, N.C. Health Facilities Data Book (Annual):
Facility-level data are compiled from the annual license renewal application, including bed complement, utilization statistics, facility personnel, patient census by age and sex, yearly expenditures, and basic monthly charges; about 225 pages; **cost: $5.00.**

North Carolina
VITAL STATISTICS
1988

VOLUME 1: Births
Deaths
Population
Marriages
Divorces

CHES

Center for Health and Environmental Statistics
N.C. Department of Environment, Health, and Natural Resources
Division of Statistics and Information Services

N.C. Department of Environment, Health, and Natural Resources
Division of Statistics and Information Services
Raleigh, North Carolina

STATE OF NORTH CAROLINA

James G. Martin, Governor

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES

William W. Cobey, Jr., Secretary

DIVISION OF STATISTICS AND INFORMATION SERVICES

Delton Atkinson, M.S.P.H., M.P.H., Director

November 1989

750 copies of this public document were
printed at a cost of $780.33 or $1.04 per copy.

TABLE OF CONTENTS

Page

ON THE COVER iv

I. INTRODUCTION 1- 1

II. TRENDS IN VITAL STATISTICS 1- 3

III. GEOGRAPHICAL PATTERNS IN VITAL STATISTICS 1-13

IV. REGISTRATION OF VITAL EVENTS 1-27

Birth and Death 1-27
Fetal Death 1-27
Marriage and Divorce 1-27

V. TECHNICAL NOTES 1-29

Residence Allocation 1-29
Occurrence Allocation 1-29
Race or Color Allocation 1-29
Completeness of Registration of Vital Events 1-29
Accuracy of Items on Certificate 1-30
Treatment of Missing Values 1-30
Data Processing 1-30

VI. POPULATION BASES AND BIASES IN PRE-1980 VITAL STATISTICS RATES 1-33

VII. DEFINITIONS AND FORMULAS 1-35

SYMBOLS 1-40

REFERENCES 1-41

TABLES

State 2- 1
Department of Human Resources Regions 3- 1
Health Service Areas 4- 1
Perinatal Care Regions 5- 1
Counties 6- 1
Cities 7- 1

COVER: A pen and ink drawing of the Biltmore House by Raleigh artist, Jerry Miller. See note on the next page for more information.

ON THE COVER

George W. Vanderbilt (1862-1914), grandson of "Commodore" Cornelius Vanderbilt, was so taken with the mountain views near Asheville, North Carolina that he purchased 125,000 acres of Pisgah Forest in the French Broad River valley for the future site of his spectacular country estate. The renowned American architect Richard Morris Hunt worked with Vanderbilt to design the house in French Renaissance style suggestive of the famous 16th-century chateaux of the Loire Valley in France. Construction of the Biltmore House was begun 100 years ago in 1890 and took a thousand men five years to complete. While it is the beauty and extravagance of the architecture and decor that impress us now, "luxuries" such as electric lights, indoor plumbing, central heat, and mechanical refrigeration also captured the imagination of turn-of-the-century guests.

One of 26 National Historic Landmarks in North Carolina, the Biltmore House has been preserved as it was during Mr. Vanderbilt's life and has been open to the public since 1930.

I. INTRODUCTION

This volume is the seventy-third annual vital statistics report of the State of North Carolina. It is intended to serve as a basic resource to those individuals, institutions and agencies delivering and/or planning health services for the citizens of North Carolina.

The tables of this report show annual frequencies, annual rates and five-year rates for the state, four Department of Human Resources regions, six Health Service Areas, six Perinatal Care Regions and the one hundred counties of North Carolina. In addition, annual frequencies and selected rates are shown for 43 major incorporated cities.

Trends in state data are described in Section II while Section III contains maps depicting county data. Geographical patterns are discussed in terms of the HSA's. Sections IV-VII contain description and discussion of the terms and procedures underlying all tabular and graphical data presented. ***Users should note a change*** in the case of birth attendant that began in 1980. On July 1, 1979, amendment of General Statute 130-50 allowed a certified nurse midwife (CNM) to attend births occurring in a hospital or other medical facility. Further, a CNM may obtain a permit to deliver outside a medical facility. Thus, on January 1, 1980, certified nurse midwives and permitted midwives were coded separately.

Since more detailed information is available on an annual basis than can be published here, other publications available through this office are described on the back of the front cover. Persons desiring copies of these publications may contact Information Services at (919) 733-4728, or address correspondence to:

Division of Statistics and Information Services
Department of Environment, Health, and Natural Resources
P.O. Box 27687
Raleigh, North Carolina 27611-7687

II. TRENDS IN VITAL STATISTICS

North Carolina's 1988 population and registered vital events reflect the following changes:

- The birth rates for both whites and nonwhites rose in 1988.
- The percentage of North Carolina births classified as low-weight increased slightly.
- The percentage of the state's live births that occurred out of wedlock continued its upward trend.
- Fetal mortality rates for both whites and nonwhites increased.
- The nonwhite neonatal mortality rate declined while the white neonatal mortality rate rose slightly.
- The nonwhite postneonatal mortality rate increased substantially while the white postneonatal mortality rate remained unchanged.
- The infant death rate increased as a result of the higher nonwhite postneonatal mortality rate (particularly the increased incidence of Sudden Infant Death Syndrome).
- The state's unadjusted death rate increased in 1988 while the mortality rate adjusted for age stayed the same.

Expanded analyses of these and other trends are contained in this section. These analyses are based on annual vital event registrations and population bases applicable to July 1 of the event year. The population bases and inherent problems are described in Section VI where the reader may also glean some appreciation for biases in pre-1980 estimates arising from population undercounts. It should be noted that trend data and corresponding graphs have not been corrected for errors in pre-1980 population bases.

Graphs use the logarithmic scale. On this scale, equal distances represent equal percentage changes. This scale should not be confused with the arithmetic scale, where equal distances represent equal numeric changes. The logarithmic scale is used in this report so that the reader may compare relative (percentage) changes as opposed to numerical or absolute changes in a rate.

Trends depicted in the graphs are for North Carolina (N.C.), the United States (U.S.), and the South Atlantic Area (S.A.)*. Data for the U.S. and S.A. are from the National Center for Health Statistics, and U.S. and S.A. data for 1987 and 1988 are either provisional or not yet available.

---

*Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, and the District of Columbia.

POPULATION

North Carolina's population increased by nearly 16 percent during the 1970s, or approximately five percent faster than the national rate of growth. However, the rate of natural increase (excess of births over deaths) declined from 10.6 in 1970 to 6.1 in 1980. Consequently, nearly half of the overall 798,000 increase in population resulted from extensive in-migration during the past decade (1). North Carolina's population growth of 10.3 percent during the period 1980-88 was exceeded by only six states. Projected population growth for the year 2000 is 7.26 million (2).

By 1980 North Carolina was the tenth most populous state and had the second largest rural population in the country (with Pennsylvania ranking number one). In fact, nearly 52 percent of the total population was rural—twice the corresponding proportion for the nation (1).

By race, North Carolinians in 1980 were 76 percent white, 22 percent black, one percent American Indian, and 0.7 percent other races. North Carolina is one of only seven states in which blacks constitute more than one-fifth of the population. Our large Indian population also places us fifth in the total number of Native Americans. However, North Carolina's Hispanic population (which falls into several of the race categories) is relatively small when compared to the national average (approximately six percent) (1).

The median age in North Carolina rose from 26.5 in 1970 to 29.6 in 1980—slightly less than the 1980 United States median age of 30. This shift in the age composition of the state is particularly dramatic when one examines population by age group: the percentage of those under the age of 18 declined from 34.6 to 28.2, while the percentage of residents 65 and older rose from 8.1 to 10.3. In the United States, 11.2 percent of residents are 65 and older (2). Birth rate decreases, longer life expectancies, and migration into North Carolina have contributed to an increasingly older population in the 1980s. The increase in the state's elderly population was 17.4 percent over the five years from 1980 to 1985, the ninth highest increase in the country. From 1980 to 2010 the number of residents 65 and older is expected to double; the number 85 and older is projected to quadruple (3).

Females represented 51.4 percent of the state's population in 1980 (4). The state's historically high female labor force participation rate (eighth highest in the United States) rose from 47 to 54 percent in the last decade. North Carolina also has the highest proportion of working mothers of any state. Sixty-five percent of resident mothers with children below age 18 are in the labor force; this figure compares with 55 percent nationally. Furthermore, three-quarters of North Carolina women versus 69 percent of United States women are full-time workers (1).

Despite substantial gains, North Carolina still ranks among the poorest states when one uses family poverty and personal income statistics as determinants of wealth. The North Carolina poverty rate rose from 13.5 percent in 1979 to an estimated 14.1 percent in 1987 (5). United States poverty rates in those years were 11.7 and 13.5 percent respectively. North Carolina's personal income per capita, at $13,314, was 86 percent of the national mark in 1987 (6).

Educational attainment also remains below average in North Carolina: in 1980, only three other states had a lower percentage of high school graduates among persons 25 and older (4). However, North Carolinians are catching up. In 1970, 52 percent of United States citizens over age 24 had completed at least four years of high school while only 39 percent of North Carolinians had. By 1980, 66 percent of United States citizens were high school graduates, versus 55 percent of the state's residents (1).

Other noteworthy 1980 census demographics related to health included increases in the following: nonfamily households (persons living alone or with nonrelatives), one-parent households, children in day care, and elderly in nursing homes. When combined with the demographic data previously mentioned, state population projections suggest that there will be an unprecedented demand for health services in the years ahead (4).

TRENDS IN NORTH CAROLINA POPULATION CHARACTERISTICS
1940-1980

Percent of Total

	1940	1950	1960	1970	1980
AGE					
Under 18	39.3%	37.7%	39.0%	34.6%	28.2%
18–64	56.3	56.8	54.2	57.3	61.6
65 and over	4.4	5.6	6.9	8.1	10.3
RACE					
White	71.9	73.4	74.6	76.8	75.2 (b)
Nonwhite	28.1	26.6	25.4	23.2	24.2 (b)
RESIDENCE					
Urban	27.3	33.7 (a)	39.6	45.1	48.0
Rural	72.7	66.3 (a)	60.4	54.9	52.0

(a) Definition of "urban" changed in 1950 to include more areas as "urban."

(b) Between 1970 and 1980, differences in race classification occurred which served to decrease the category white and increase the category nonwhite. Also in censuses before 1980, enumerator judgement was often used to categorize race.

SOURCE: U.S. Department of Commerce, Bureau of the Census. N.C. Office of State Budget and Management, Research and Planning Services.

LIVE BIRTHS

North Carolina's birth rate declined steadily from the mid 1950s to the early 1980s. The rate dropped from 26.8 in 1954 to 19.4 in 1970 and 14.4 in 1980. Similarly, the fertility rate (number of live births per 1,000 women aged 15-44) also fell, from 109.4 in 1950 to 88.7 in 1970, eventually declining to 60.4 in 1980.

The birth rate rose modestly from 13.8 in 1983 to 14.3 in 1985 and 1986, continuing to 15.0 in 1988. The increase in the fertility rate has been evident in every age group, but has been more marked in women over 30: the rate for women 30-34 rose 19.3 percent, that for women 35-39 increased 32.0 percent, and the fertility rate for those aged 40-44 advanced 26.1 percent over the six-year period.

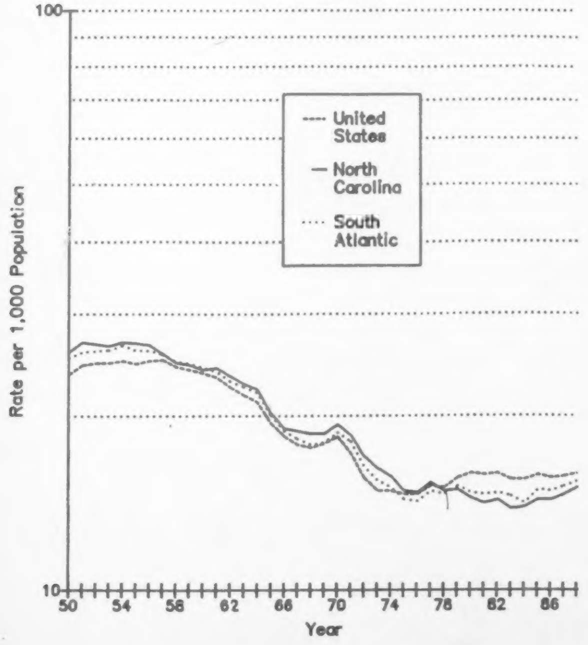
The higher United States birth rate rose from 15.7 in 1987 to a provisional figure of 15.9 in 1988. The fertility rate moved up to 67.3 in 1988 from 66.1 in 1987 (7).

The North Carolina live birth rate for nonwhites remained unchanged from 1983 to 1985 (17.5), rose in 1987 to 19.1, and again increased in 1988 to 20.2. The birth rate for whites also increased over the last five years, from 12.6 in 1983 to 13.2 in 1985, increasing slightly to 13.4 in 1988.

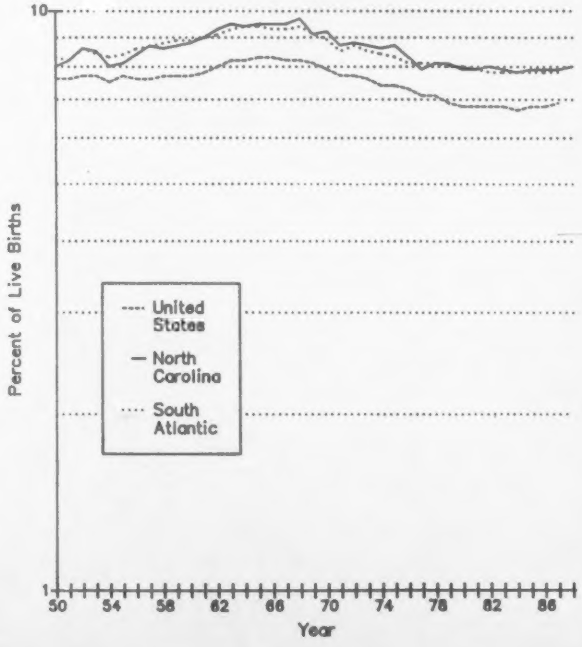
The overwhelming majority of babies born to North Carolinians in 1988 (98.1 percent) were delivered by a physician in a hospital. This percentage has remained fairly constant throughout the eighties. The percentage of babies delivered by certified nurse midwives has also remained fairly constant. It has hovered between 1.4 and 1.6 over the past five years, most recently being 1.5 (1988).

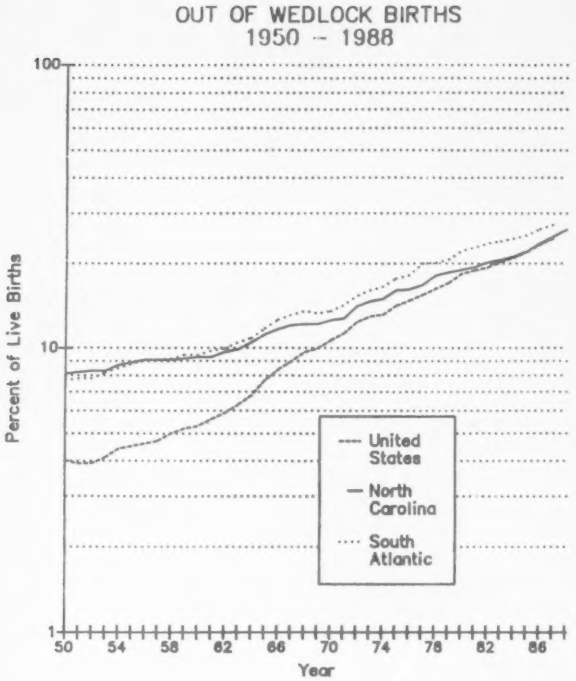
The percentage of North Carolina live births classified as low-weight (labeled "premature" in this volume) — 5 pounds, 8 ounces or less — increased slightly from 7.9 percent in 1987 to 8.0 percent in 1988. This figure is significantly higher than the U.S. 1987 percentage of 6.9. In fact, only seven states had higher rates of low birthweight (8). The nonwhite rate of low birthweight is approximately twice the white rate in North Carolina.

LIVE BIRTHS
1950 – 1988



LOW–WEIGHT LIVE BIRTHS
1950 – 1988





North Carolina live births occurring out of wedlock continued to increase, reaching 26.3 percent in 1988. Only 18 years ago, in 1970, 12.6 percent of births were to unwed women. In 1975 the percentage had risen to 16.1, and by 1980 it had reached 19.0. By race, the percentage of white live births that occurred out of wedlock more than tripled from 1970 to 1988. In 1970 the percentage was only 3.8, rising to 4.5 in 1975, 6.4 in 1980, and 11.7 in 1988. Corresponding percentages for nonwhites were 33.9 in 1970, 40.6 in 1975, 45.6 in 1980, and 56.7 in 1988.

The United States has also shown a steady rise in the percentage of live births occurring out of wedlock, with 24.5 percent of its births classified as such in 1987. The white percentage was 16.7 and the nonwhite percentage was 62.2. The National Center for Health Statistics explains the rapid rise in the number and percentage of births to unmarried women by noting increases in both the birth rate for unmarried women and the number of unmarried women of childbearing age. Between 1980 and 1987 the unmarried birth rate rose 23 percent, and the number of unmarried women increased 14 percent. (The number of married women rose only 6 percent.) High divorce rates and the widespread tendency to delay marriage to increasingly older ages have both contributed to the growth of the unmarried female population (8).

Live births to teenage mothers, a continuing concern in North Carolina, have been declining in recent years. Women ages 19 and under gave birth to 19.2 percent of babies in 1980, compared to 15.9 percent in 1988. Although the general trend is downward, North Carolina is still above the United States percentage of 12.4 (8).

In contrast, live births to mothers 35 and older have been going up in recent years. The percentage of live births attributed to women 35 and older was 5.8 in 1988, up from 5.6 in 1987 and significantly higher than the 1980 percentage of 3.6. The corresponding United States percentage in 1987 was higher still, however, at 7.5 (8).

Seven maternal characteristics recorded on the birth certificate are known to be positively associated with increased rates of infant mortality: (1) being younger than age 18 or (2) older than 35; (3) possessing less than a high school education; (4) giving birth out of wedlock; and (5-7) having a history of either four or more previous pregnancies, a fetal death, or a previous liveborn infant who died. While the percentage of mothers having at least one of these risk characteristics has declined in recent years, the percentage rose in both 1987 and 1988, moving first to 53.9 and then to 56.9. Higher percentages of women in categories 2, 4, and 5-7 contributed to the increase in combined maternal risk. However, birth certificate changes in 1988 substituted a "total number of terminations" query for the previous "fetal death at any time after conception" question, rendering invalid strict comparisons to 1987 or earlier years. The "total number of terminations" includes induced abortions whereas the former query did not.

By race, the percentages of women having at least one of the maternal risk factors in 1988 were 48 for whites, 79 for blacks, 70 for American Indians, and 44 for other races.

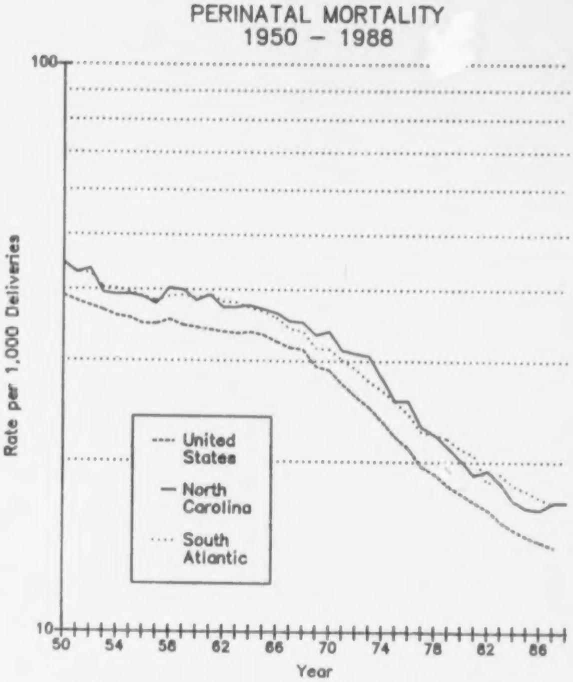
The percentage of women having less than adequate prenatal care increased 9 percent to 28.8 in 1988. The percentage for white mothers rose from 19.6 in 1987 to 21.2 in 1988. The increase for nonwhites was from 41.5 to 45.6 percent.

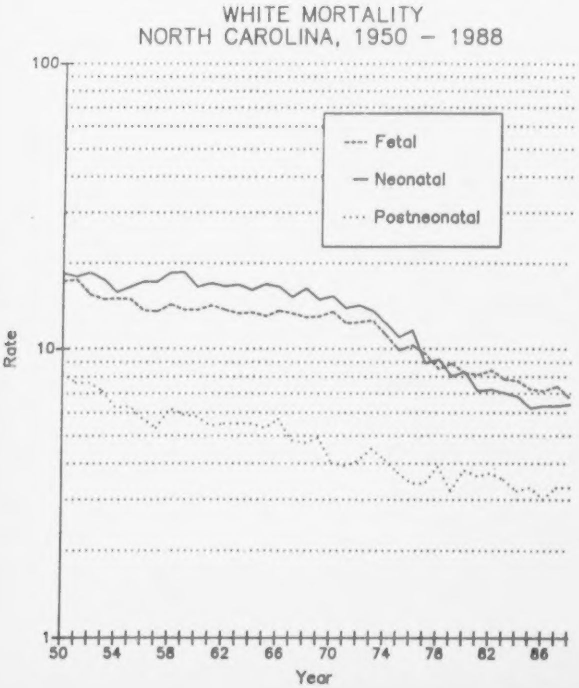
PERINATAL AND INFANT MORTALITY

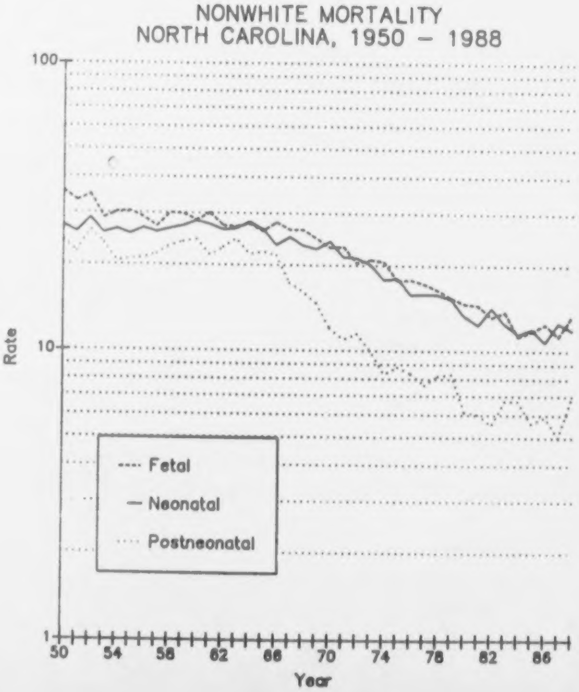
North Carolina's perinatal mortality rate (fetal and neonatal deaths per 1,000 deliveries) has declined sharply, falling from 33.8 in 1970, to 25.5 in 1975, and then to 20.1 in 1980. The decrease appears to have stalled in the last five years, however, the rate dipping from 17.0 in 1984 to 16.4 in 1986, and then rising to 16.9 in both 1987 and 1988. The 1987 U.S. perinatal rate was 14.1 (8).

The fetal death rate, as one component of the perinatal rate, also declined rapidly from the early 1970s, but leveled during the 1984-88 period. A rate of 8.8 at the outset of these five years remained essentially unchanged by 1988, moving to 8.9. A comparison of fetal death rates by race reveals that mortality reductions have been more rapid for whites than for nonwhites during the past several decades. The U.S. fetal mortality rate was 7.6 in 1987 (8).

North Carolina's neonatal mortality rate vacillated from 8.2 in 1984 to 7.7 in 1986, increasing to 8.3 in 1987, and then dropping off to 8.1 in 1988. The drop from 1987 to 1988 was mainly attributed to a nearly 6 percent decline (from 12.6 to 11.9) in the nonwhite neonatal mortality rate. The white rate turned up from 6.3 to 6.4. The U.S. neonatal death rate was 6.5 in 1987 (8).



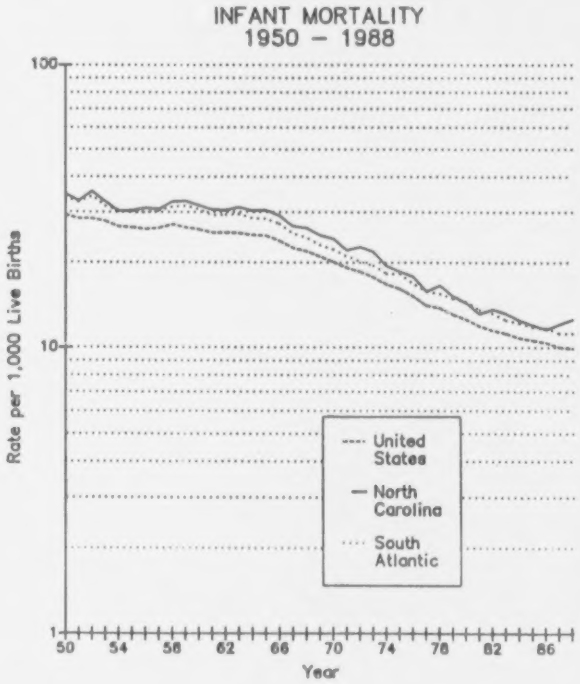




From 1970 to 1982, North Carolina's nonwhite postneonatal mortality declined markedly, falling 54 percent in the twelve years. The white rate dropped less dramatically — only 7.5 percent over the same period. In fact, the white rate continued to vary little during the 1984-88 period, beginning at 3.2 in 1984 and ending in 1988 at 3.3. In 1988 the nonwhite rate was at its highest point in the five-year period, rising substantially from 1987's 5.0 to a 1988 level of 6.9.

Both races have exhibited increased rates of postneonatal mortality among very small infants (under 1,500 grams at birth) during the last decade. The U.S. 1987 postneonatal mortality rate of 3.6 compares to North Carolina's rate of 4.5 for these very small infants (9).

The state's infant mortality rate fell substantially from 1970 to 1986, mirroring the trend in other mortality rates. The infant mortality rate was 24.1 in 1970, 18.5 in 1975, 14.4 in 1980, dropping further to 11.6 in 1986. The percentage of low-birthweight babies delivered in hospitals with newborn intensive care units doubled during this period with the assistance of the state's Perinatal Care Program, contributing significantly to the reduction in the infant mortality rate. However, in 1987 and again in 1988, the infant mortality rate rose, first to 12.1 and then to 12.6. The former increase was due largely to an increase in nonwhite neonatal mortality while the latter increase was due entirely to the higher nonwhite postneonatal mortality rate largely involving an increased incidence of Sudden Infant Death Syndrome (SIDS). These increases may be associated with the growing percentage of women exhibiting at least one of the maternal characteristics that are positively associated with high rates of infant mortality as well as with the increasing percentage of women receiving inadequate prenatal care.



The provisional United States rate of infant mortality for 1988 was 9.9. Only the District of Columbia had a rate exceeding North Carolina's (7).

DEATHS

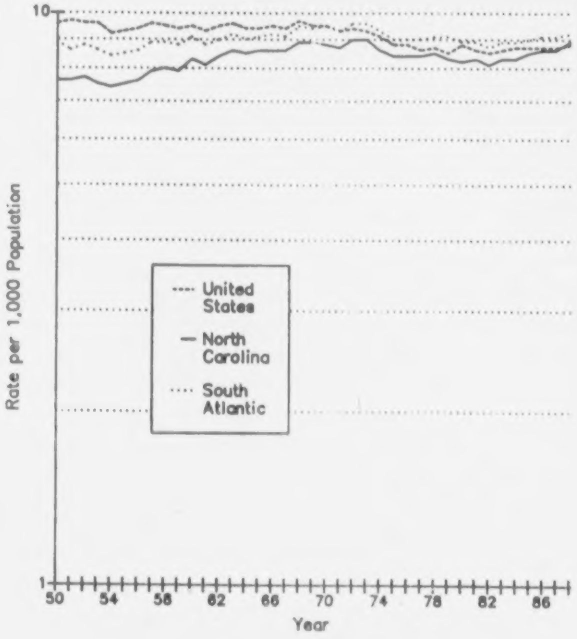
The total number of deaths increased 4.2 percent from 1987 to 1988 to 57,630 residents. The unadjusted death rate was 8.9 per 1,000 population in 1988, compared with the 1987 rate of 8.6 and 1983's 8.3. While the 1988 figure was the highest point in the five-year period, it is still below the peak rate of 9.1 experienced in 1972 and 1973. The provisional United States death rate of 8.8 for 1988 was only slightly below the North Carolina rate (7).

Although the elderly population in North Carolina is increasing more rapidly than the national average, North Carolina's population is generally younger than that of the United States. As a result, when the death rates are adjusted for age, the disparity between North Carolina and the United States widens: the 1988 age-adjusted death rate in North Carolina was 5.7 (unchanged from 1987) compared with 5.4 for the United States (7).

Unadjusted death rates rose for every race-sex group from 1987 to 1988: nonwhite males from 10.2 to 10.6, nonwhite females from 7.4 to 7.6, white males from 9.3 to 9.5, and white females from 7.9 to 8.2. North Carolina age-adjusted rates compare with United States figures in 1988 as follows: white and nonwhite males had higher rates, while North Carolina females of both races had lower age-adjusted death rates (7).

The median age at death in North Carolina was 72.9, up from 72.6 in 1987, 69.9 in 1980, 66.4 in 1970, and 28.1 in 1914, the first year of centrally recorded deaths. Mortality rates fell slightly from 1987 to 1988 for age groups 5-14, 15-24, 45-54, and 65-74. The mortality rates of children 1-4 and adults 85 and older were the most significant of the age-group increases, rising 17.7 and 6.4 percent respectively. Only North Carolinians ages 15-24 and those 85 and older had lower death rates than corresponding age groups in the United States in 1988 (7).

TOTAL MORTALITY
1950 – 1988



Further comparisons of state and national deaths for 1988 indicate that rates for the following populatio subgroups in North Carolina were either above or below the United States age-race-sex-specific rates by more than 25 percent:

1) Nonwhite males, ages 1-4 (61 percent above);
2) Nonwhite males, ages 15-24 (27 percent below);
3) White females, under 1 year (33 percent above); and
4) Nonwhite females, ages 1-4 (90 percent above) (7).

Additional inspection of the 1988 resident death data reveals that, for every age group, males exhibit higher rates of death than do females. Nonwhites experienced higher death rates than whites except at ages 85 and older. However, the high nonwhite rates obscure the fact that nonwhite females exhibit the lowest overall death rates of the race-sex groups when not adjusted for differences in age distribution.

MARRIAGES AND DIVORCES

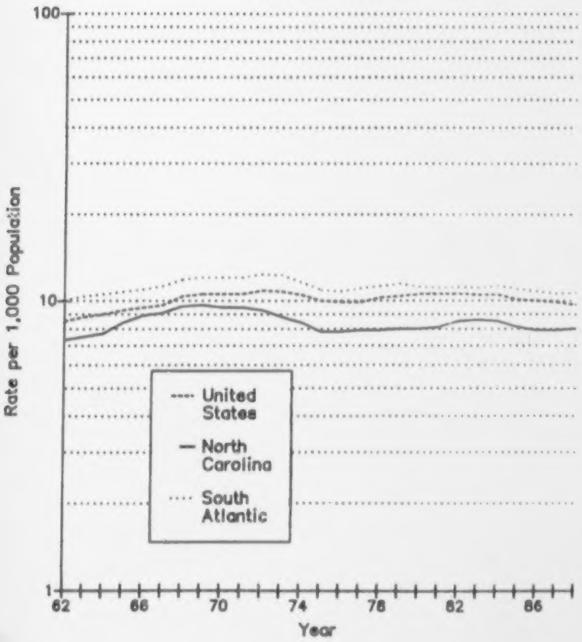
Eight marriages per 1,000 North Carolinians took place in 1988. The rate of 8.0 inched up from 1987's 7.9, but was down from the 1984 rate of 8.5.

June was the most popular month for weddings in 1988, with 6,016 marriage certificates issued. In the case of first marriages, 22.7 was the median age for brides, compared with 24.7 for grooms. Median age for remarriages was 33.6 for brides and 35.0 for grooms.

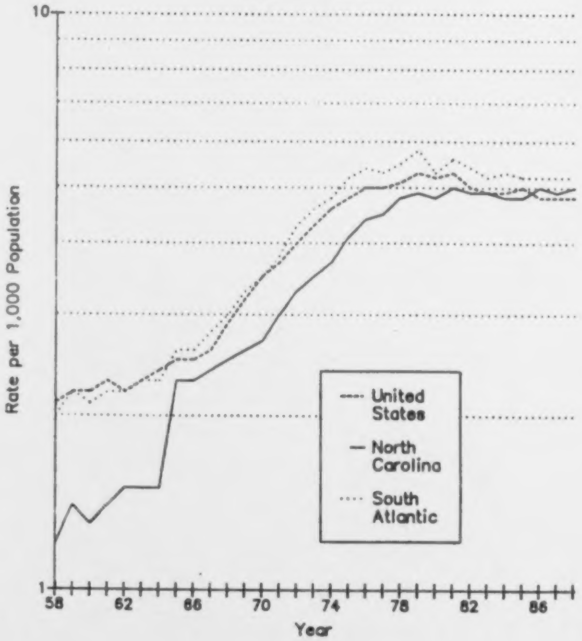
North Carolina's divorce rate increased sharply from 1970, when there were only 2.7 divorces per 1,000 residents, to a 1980 rate of 4.8. The divorce rate has stayed relatively stable since that time, however, and remains at 5.0 in 1988. Stated differently, for every 100 marriages in 1988 there were 62 divorces, as compared with 1970, when there were only 28 divorces per 100 marriages. Earlier still, when marriages were first centrally recorded in 1962, only 20 North Carolinians divorced for every 100 who married. In 1988, 49.8 percent of divorces indicated that the parties were parents of at least one child under age 18. This figure is lower than the 53.4 percent in 1980 and the 56.7 percent in 1975.

The provisional U.S. 1988 marriage and divorce rates were 9.7 and 4.8 respectively (7). By comparison, North Carolina's low marriage rate may be an indication that our state laws, which are relatively restrictive, have caused residents to marry out-of-state more often than nonresidents marry here. Marriage and divorce counts are by place of occurrence rather than residence. North Carolina divorce laws are also relatively restrictive, perhaps making the state's rates lower than they otherwise would be.

MARRIAGE RATES
1962 – 1988



DIVORCE RATES
1958 – 1988



III. GEOGRAPHICAL PATTERNS IN VITAL STATISTICS

This section contains ten computer-produced maps which depict population and selected vital statistics for the state's 100 counties. Data and population bases for the vital statistics rates are for the five-year period 1984-88. The range of data values indicated by the map legend was formed by a clustering routine from the Statistical Analysis System (10). This routine groups into six clusters counties that were "most like each other" with respect to the statistic being examined. This procedure may result in very large or very small groups depending upon how counties differ from one another.

The ten maps display the county statistics listed below. Definitions and formulas are found in Section VII and maps displaying county names are printed on the reverse sides of region and county divider sheets. It should be noted that marriage rates were not mapped this year because an overwhelming majority of the rates were "too much like each other."

FIGURE

1. Estimated Population, July 1988
2. Live Births per 1,000 Population
3. Premature Live Births per 100 Live Births
4. Out-of-Wedlock Live Births per 100 Live Births
5. Fetal Deaths per 1,000 Deliveries
6. Neonatal Deaths per 1,000 Live Births
7. Postneonatal Deaths per 1,000 Neonatal Survivors
8. Infant Deaths per 1,000 Live Births
9. Deaths per 1,000 Population
10. Divorces per 1,000 Population

Although the vital statistics rates exhibited on the maps are five-year rates, caution should be exercised when interpreting relatively high rates in sparsely populated counties. These counties usually have a small number of events which creates a very unstable rate. Readers are urged to consult their respective county tables for the 1988 numbers involved before becoming alarmed at relatively high county-level rates.

COMPARISONS AMONG HEALTH SERVICE AREAS (HSAs)

For each of the mapped statistics, the table on the following page shows the range of values among the six HSAs and each HSA's rank. A low rank indicates a high value, e.g., a rank of 1 means the HSA had the highest of the six HSA values for a particular statistic. Values for the individual HSAs are found on pages 4-1 through 4-6.

Highlights of the 1984-88 HSA ranks

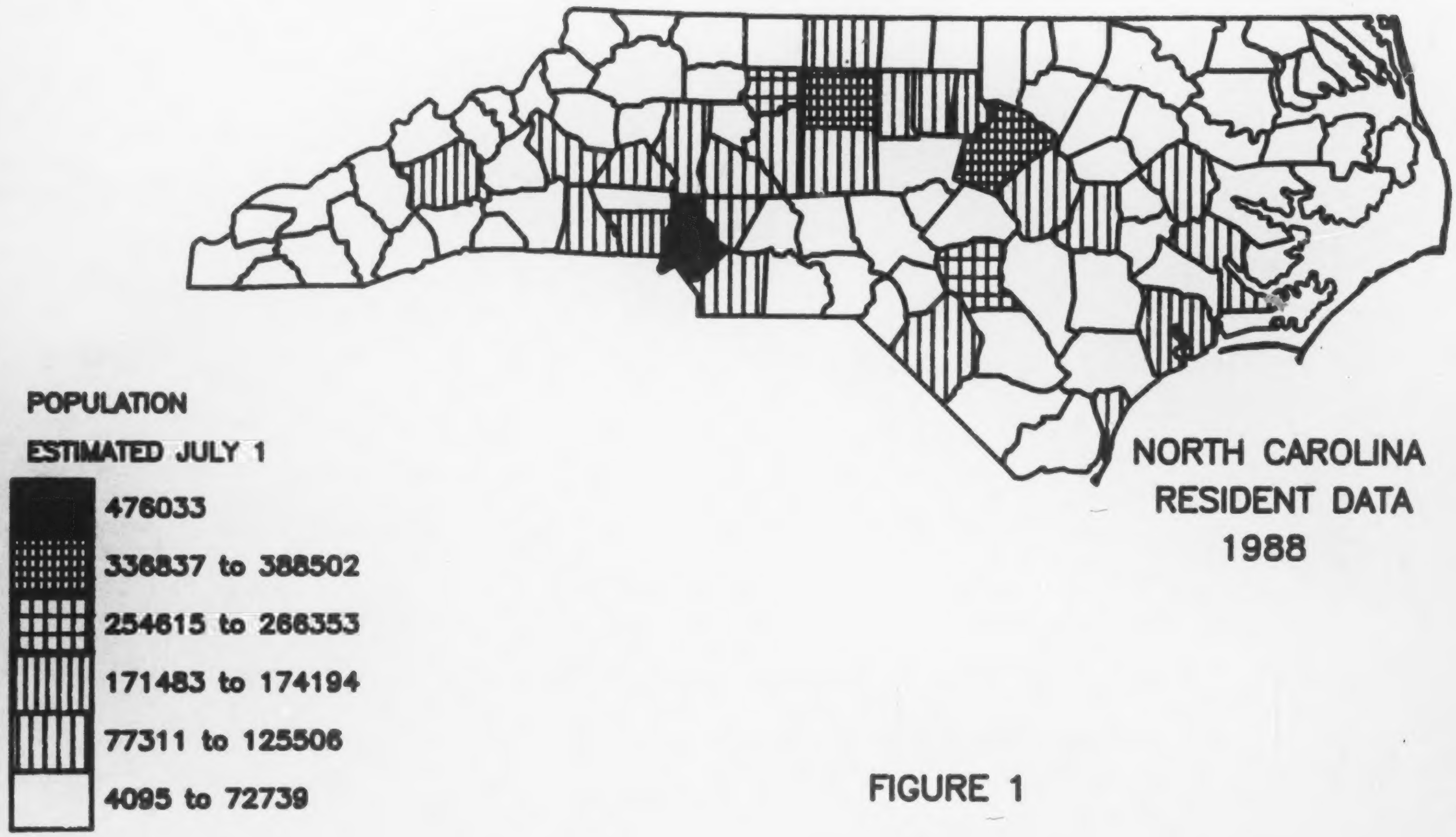
- Ranking fourth in population, the ***Western*** HSA had the lowest birth rate, prematurity rate, percentage of births out of wedlock, and fetal death rate. The HSA also had the highest overall death rate. Their relatively older population may have skewed their ranking, however.
- Ranking first in population, the ***Piedmont*** HSA had the highest postneonatal death rate and divorce rate. However, the Piedmont's neonatal death rate was the lowest of the six HSAs.
- Ranking second in population, the ***Southern Piedmont*** HSA had the highest prematurity rate. The HSA also ranked second in neonatal, postneonatal, and infant death rates, and the divorce rate.
- Ranking fifth in population, the ***Capital*** HSA had the lowest overall death rate, postneonatal death rate, and infant death rate. Note that the Capital HSA tied for the highest infant death rate in 1983-87. The HSA did not rank higher than third on any of the mapped statistics in 1984-88.
- Ranking last in population, the ***Cardinal*** HSA had the highest birth rate, percentage of births out of wedlock, neonatal death rate, and infant death rate. The HSA tied for the lowest infant death rate in 1983-87.
- Ranking third in population, the ***Eastern*** HSA had the highest fetal death rate and the lowest divorce rate.

RANGE OF VALUES AMONG HSA'S AND HSA RANKS

FOR VARIABLES MAPPED IN FIGURES 1-10

Variable	Range of HSA Values	Health Service Area Rank					
		Western	Piedmont	So. Piedmont	Capital	Cardinal	Eastern
Population 7/1/88	969,547 - 1,201,583	4	1	2	5	6	3
Live Birth Rate	12.6 - 16.6	6	5	3	4	1	2
Percent Premature	7.0 - 8.6	6	3	1	5	2	4
Percent Out of Wedlock	21.4 - 29.6	6	5	3	4	1	2
Fetal Death Rate	8.3 - 10.2	6	4	5	3	2	1
Neonatal Death Rate	7.2 - 9.6	4	6	2	5	1	3
Postneonatal Death Rate	3.9 - 4.8	4	1	2	6	5	3
Infant Death Rate	11.5 - 13.9	4	5	2	6	1	3
Death Rate	7.8 - 9.8	1	3	5	6	4	2
Divorce Rate	4.7 - 5.3	4	1	2	5	3	6

POPULATION


POPULATION
ESTIMATED JULY 1
476033
336837 to 388502
254615 to 266353
171483 to 174194
77311 to 125506
4095 to 72739

NORTH CAROLINA
RESIDENT DATA
1988

FIGURE 1

BIRTH RATES

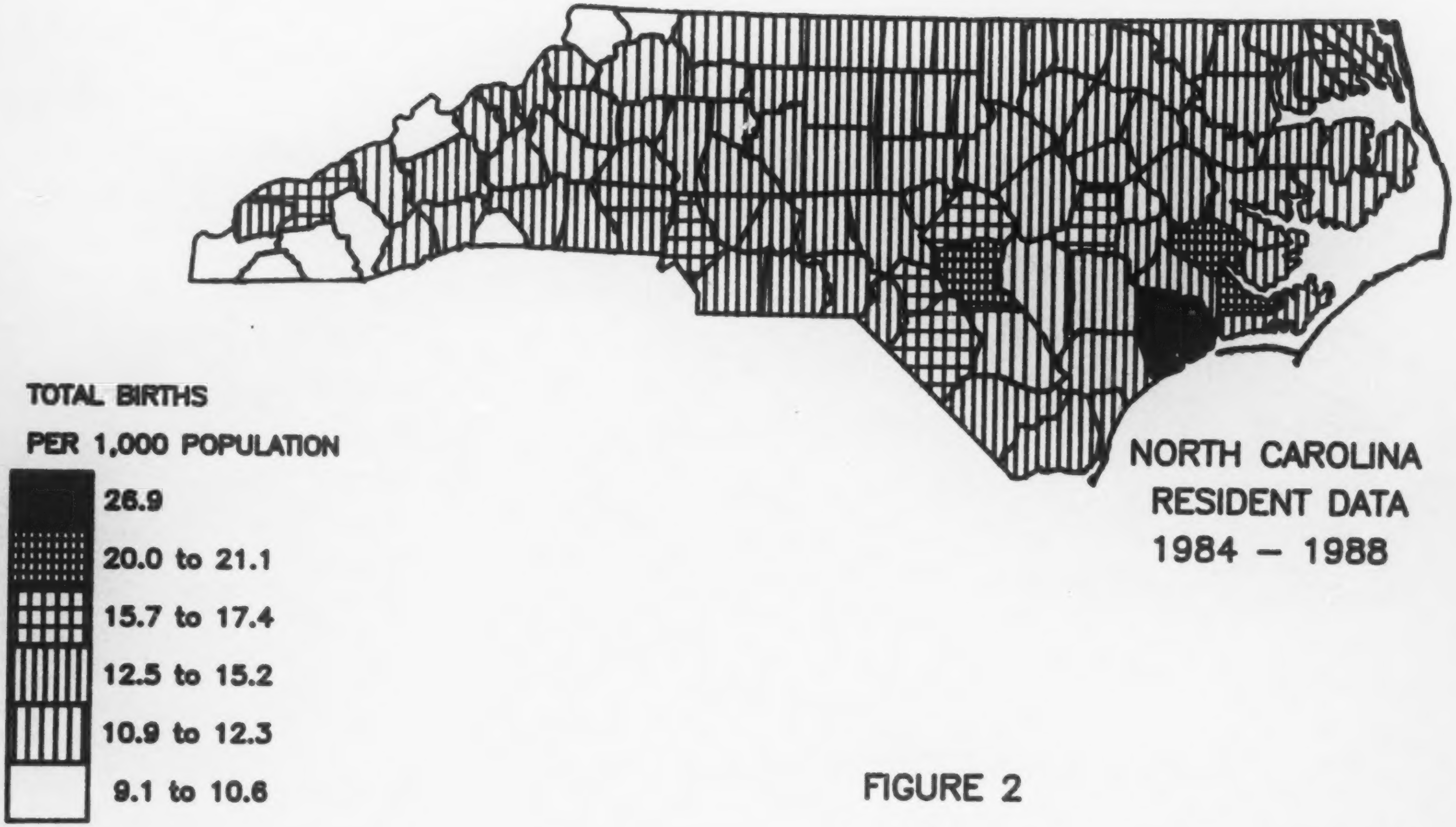
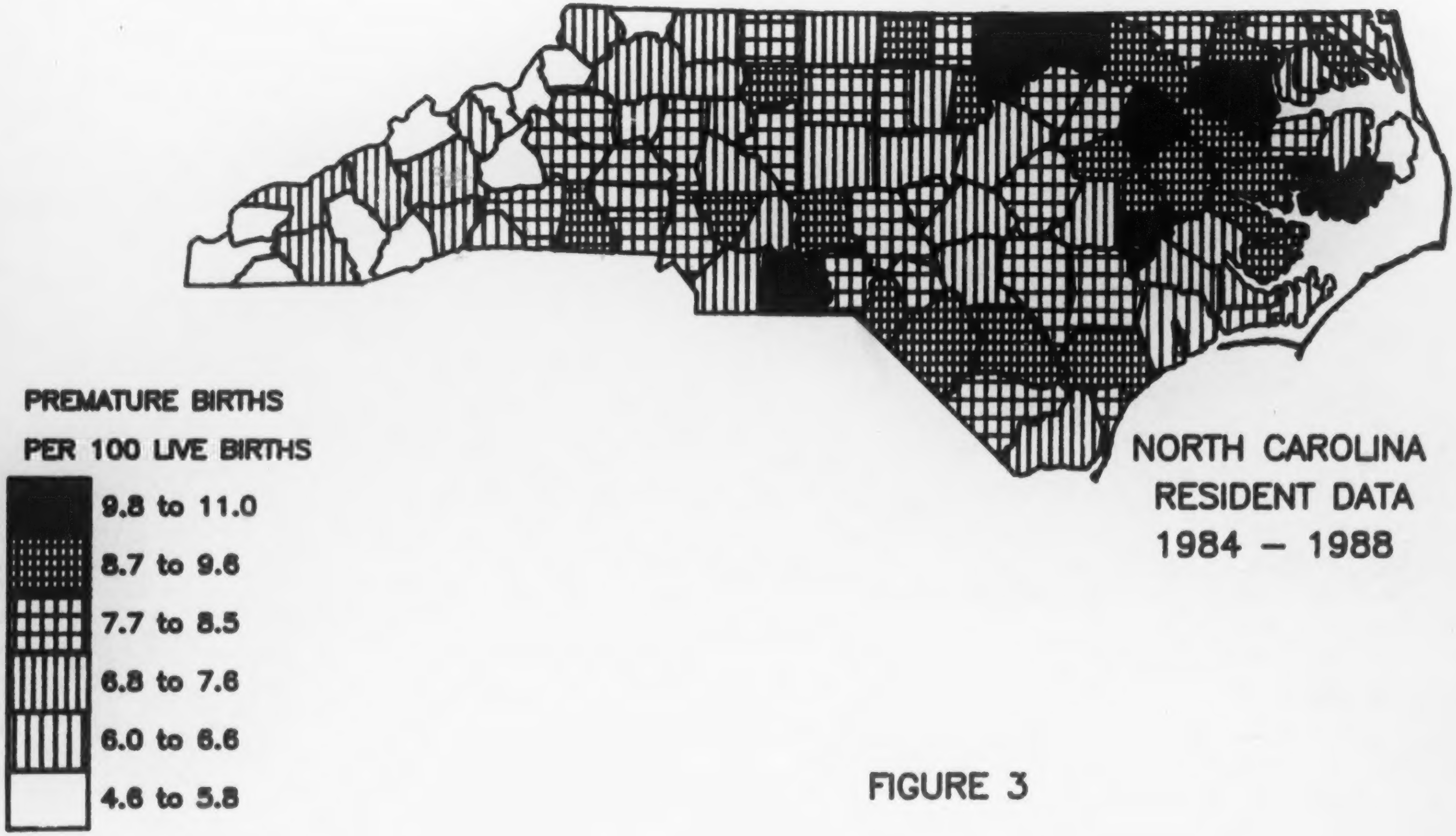

TOTAL BIRTHS
PER 1,000 POPULATION
26.9
20.0 to 21.1
15.7 to 17.4
12.5 to 15.2
10.9 to 12.3
9.1 to 10.6
NORTH CAROLINA
RESIDENT DATA
1984 – 1988

FIGURE 2

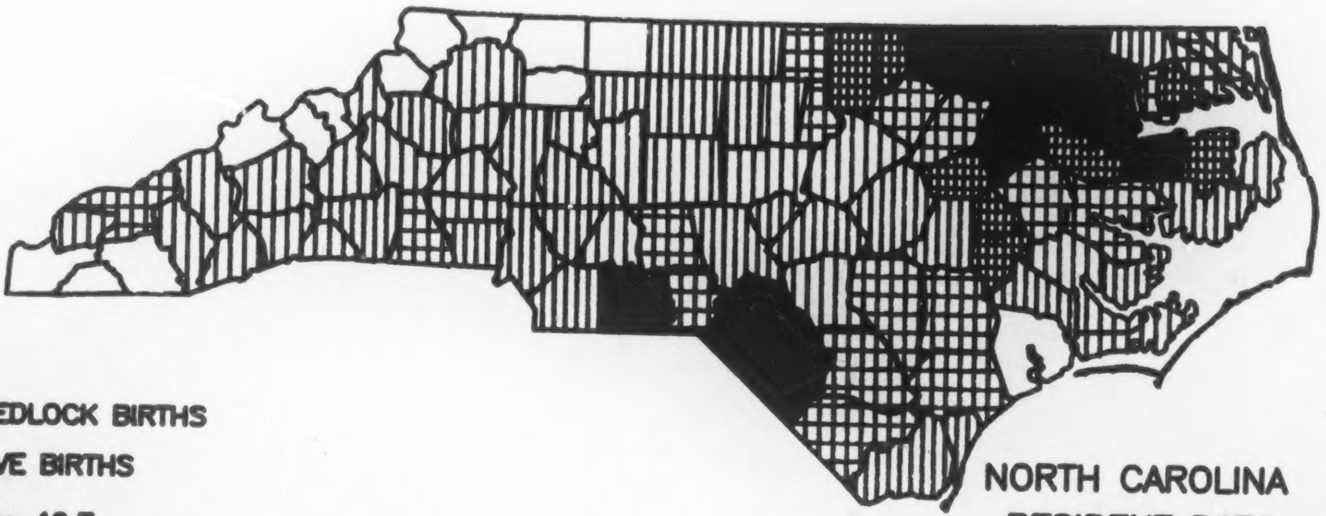
PREMATURE BIRTH RATES


PREMATURE BIRTHS
PER 100 LIVE BIRTHS
9.8 to 11.0
8.7 to 9.6
7.7 to 8.5
6.8 to 7.6
6.0 to 6.6
4.6 to 5.8

NORTH CAROLINA
RESIDENT DATA
1984 – 1988

FIGURE 3

OUT-OF-WEDLOCK BIRTH RATES



NORTH CAROLINA
RESIDENT DATA
1984 - 1988

OUT-OF-WEDLOCK BIRTHS
PER 100 LIVE BIRTHS

■	**40.1 to 46.7**
▦	**32.5 to 37.8**
▦	**27.7 to 31.2**
▥	**21.1 to 26.8**
▥	**13.5 to 20.5**
☐	**7.6 TO 12.5**

FIGURE 4

FETAL DEATH RATES

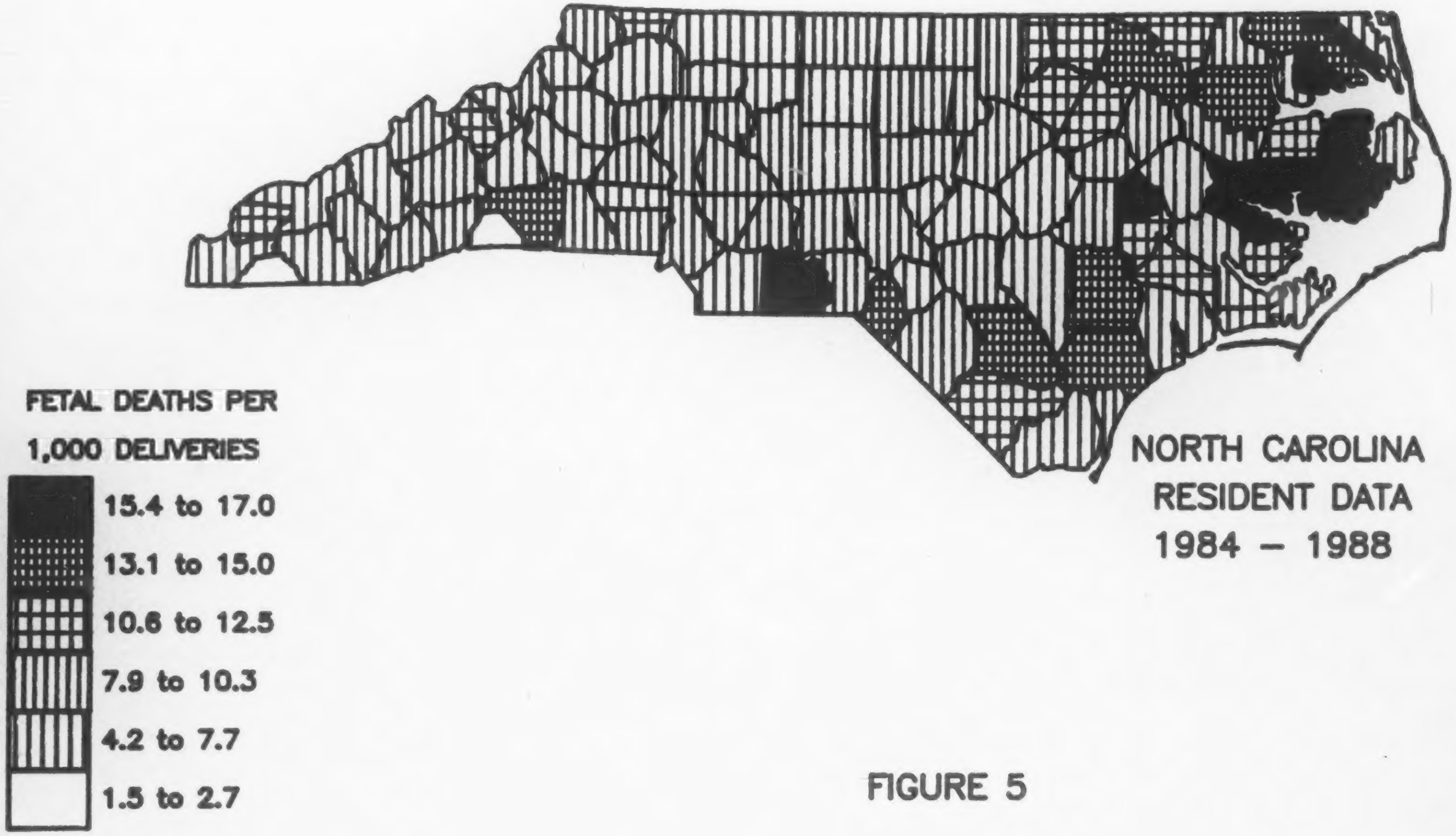

NORTH CAROLINA
RESIDENT DATA
1984 – 1988
FETAL DEATHS PER
1,000 DELIVERIES
15.4 to 17.0
13.1 to 15.0
10.6 to 12.5
7.9 to 10.3
4.2 to 7.7
1.5 to 2.7

FIGURE 5

NEONATAL DEATH RATES

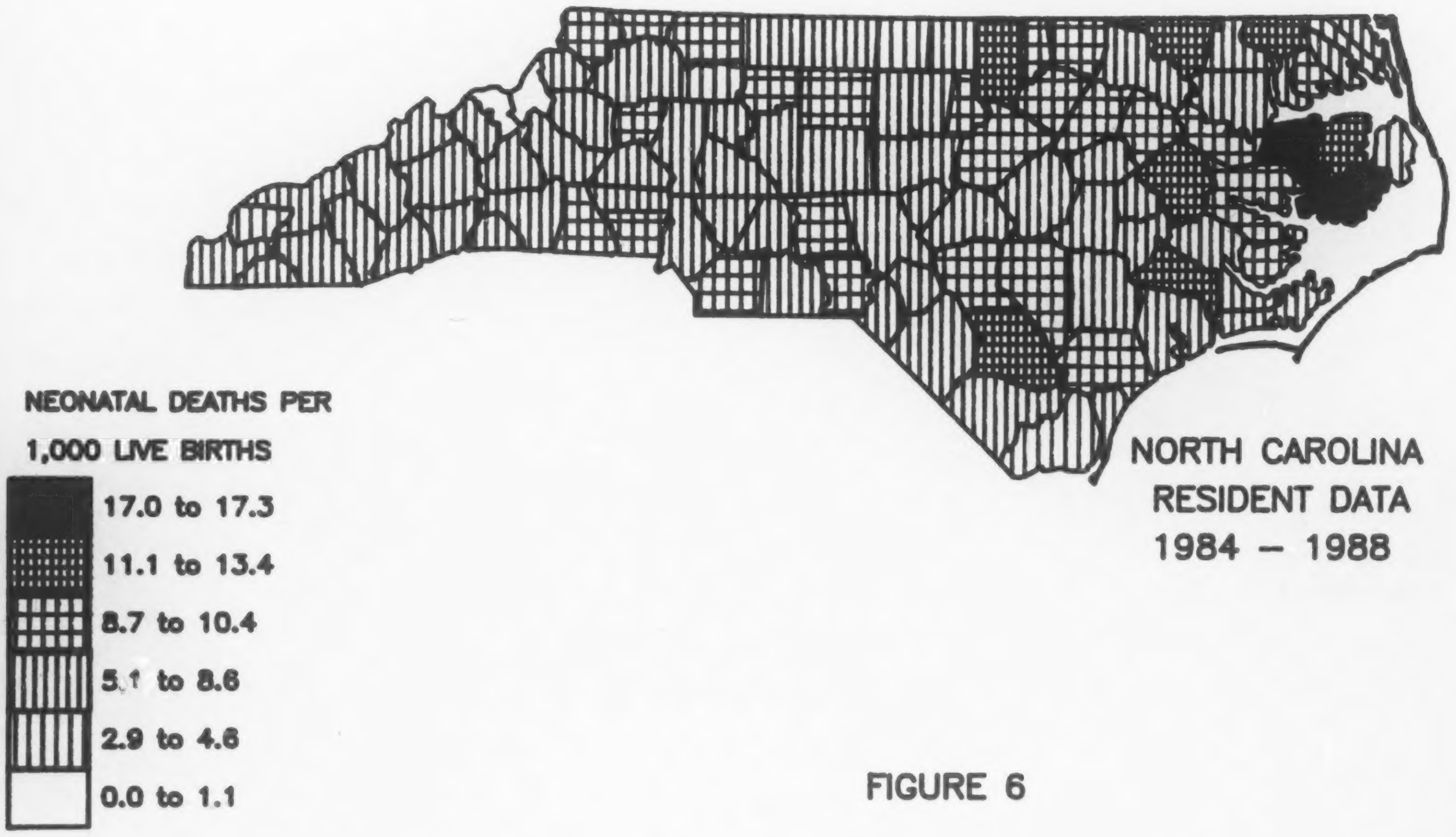
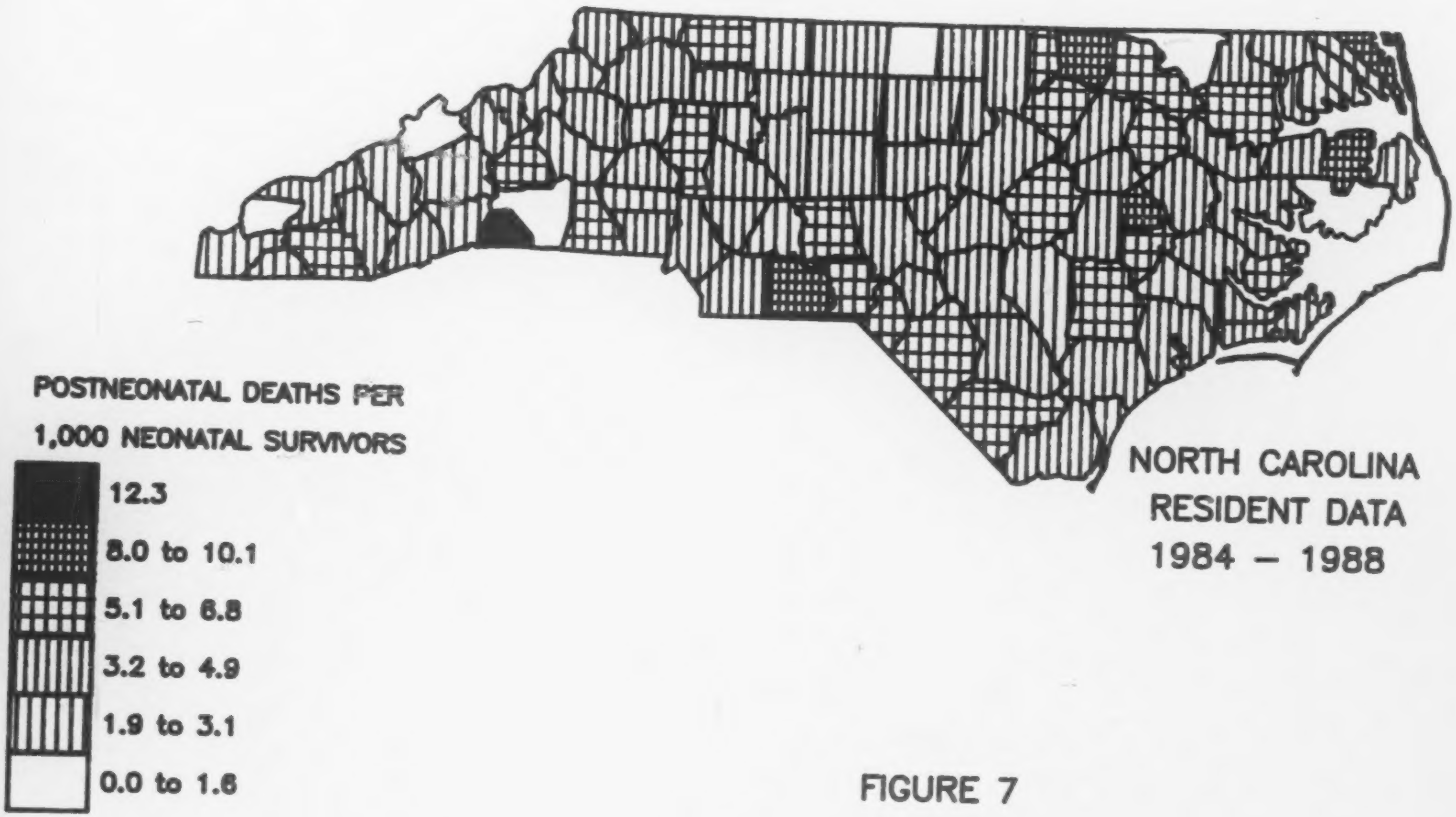

NEONATAL DEATHS PER
1,000 LIVE BIRTHS
17.0 to 17.3
11.1 to 13.4
8.7 to 10.4
5.1 to 8.6
2.9 to 4.6
0.0 to 1.1
NORTH CAROLINA
RESIDENT DATA
1984 – 1988

FIGURE 6

POSTNEONATAL DEATH RATES


POSTNEONATAL DEATHS PER
1,000 NEONATAL SURVIVORS
12.3
8.0 to 10.1
5.1 to 6.8
3.2 to 4.9
1.9 to 3.1
0.0 to 1.6

NORTH CAROLINA
RESIDENT DATA
1984 – 1988

FIGURE 7

INFANT DEATH RATES

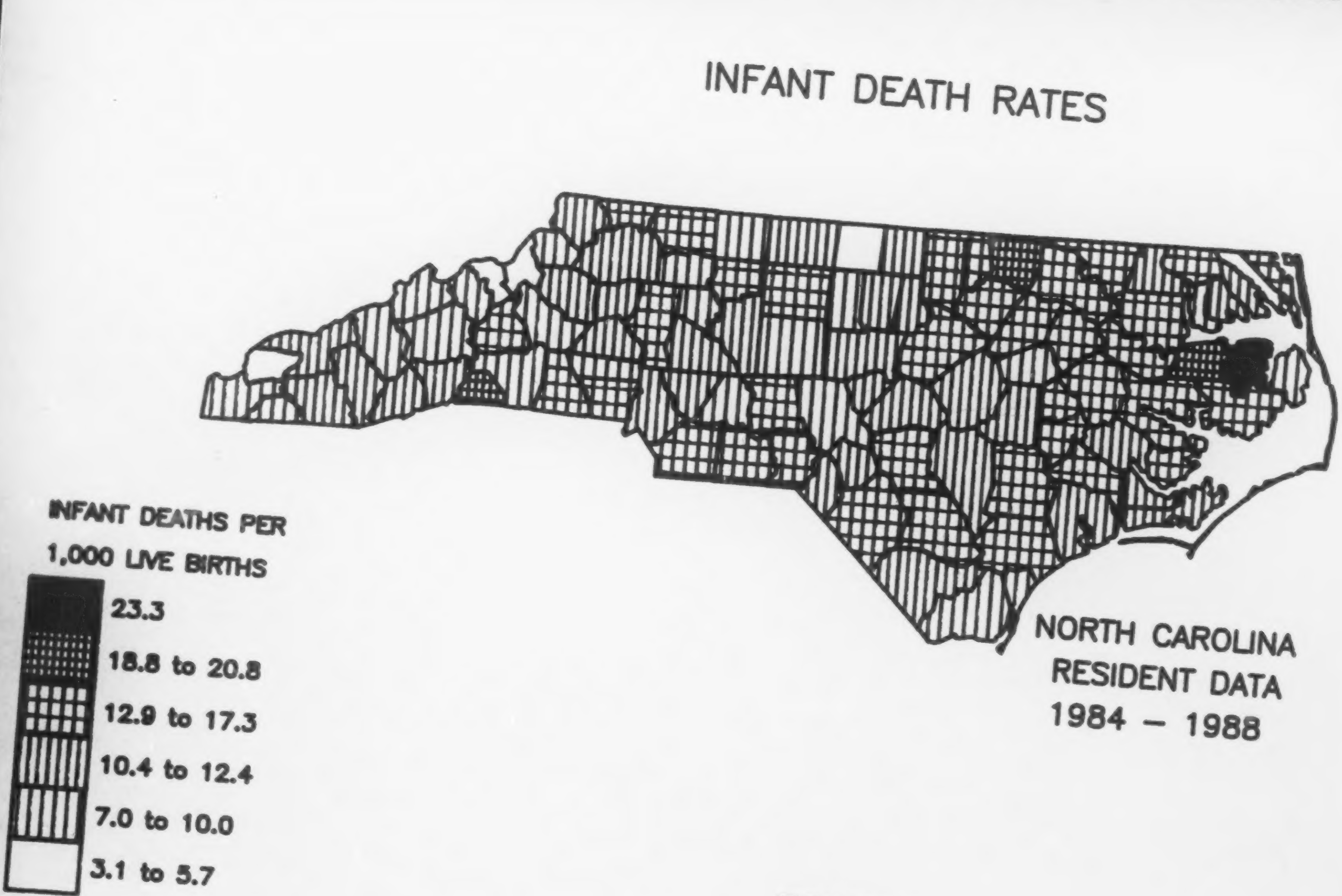
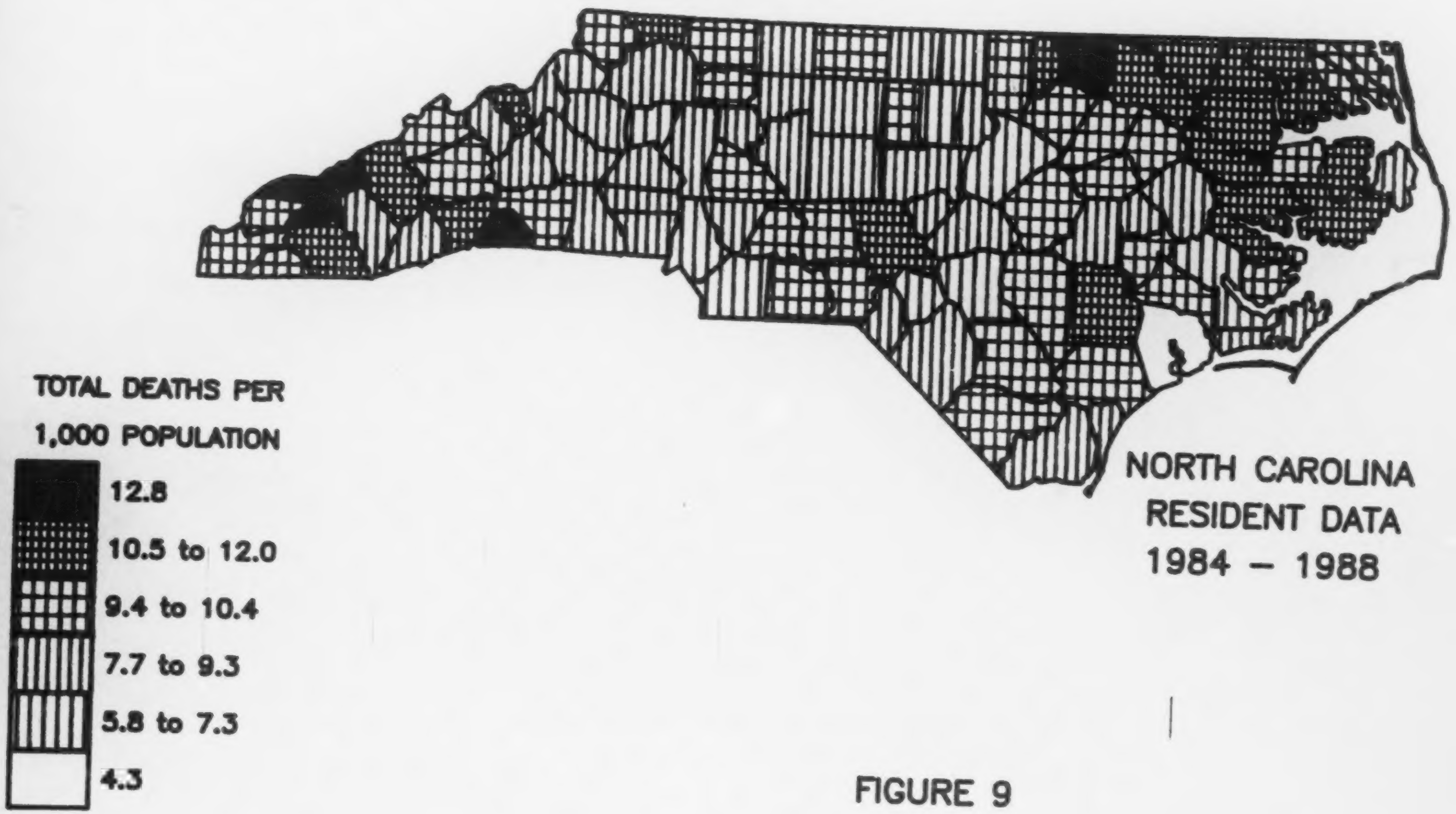

INFANT DEATHS PER
1,000 LIVE BIRTHS
23.3
18.8 to 20.8
12.9 to 17.3
10.4 to 12.4
7.0 to 10.0
3.1 to 5.7
NORTH CAROLINA
RESIDENT DATA
1984 – 1988

FIGURE 8

DEATH RATES


TOTAL DEATHS PER
1,000 POPULATION
12.8
10.5 to 12.0
9.4 to 10.4
7.7 to 9.3
5.8 to 7.3
4.3

NORTH CAROLINA
RESIDENT DATA
1984 – 1988

FIGURE 9

DIVORCE RATES

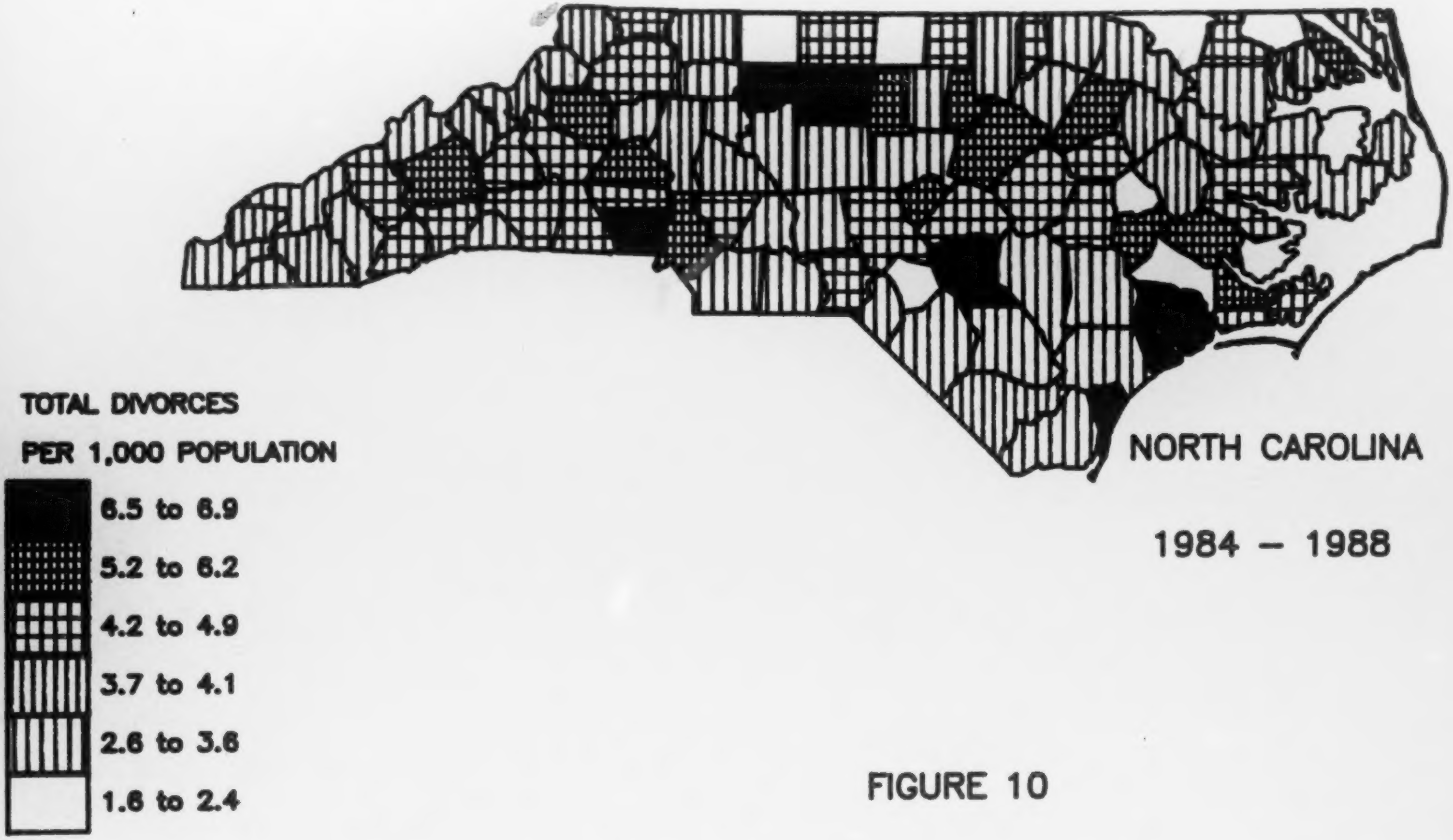

NORTH CAROLINA
1984 – 1988
TOTAL DIVORCES
PER 1,000 POPULATION
6.5 to 6.9
5.2 to 6.2
4.2 to 4.9
3.7 to 4.1
2.6 to 3.6
1.6 to 2.4

FIGURE 10

IV. REGISTRATION OF VITAL EVENTS

The origin, flow and disposition of North Carolina vital records are illustrated in the flow diagram on the following page, and a brief history of vital records processing and of current registration practice in North Carolina are discussed below. The user of this report should note, however, that some of the information given was changed by the recodification of public health laws effective January 1, 1984. This volume will be the fifth volume incorporating these changes.

The Bureau of Vital Statistics was created by an act of the General Assembly in 1913. The Vital Statistics office became a part of the Department of Human Resources in 1973. In 1989 the General Assembly combined the Department of Human Resources' Division of Health Services and the environmental and natural resources divisions of the Department of Natural Resources and Community Development to create the new Department of Environment, Health, and Natural Resources. The public health authority of this department and the laws which it administers are contained in Chapter 130A, Article 4, of the General Statutes of North Carolina. Within the organizational structure of the Department of Environment, Health, and Natural Resources, the State Registrar of Vital Statistics is appointed by the State Health Director. Duties of the State Registrar are accomplished primarily by the Vital Records Section with support from the Center for Health and Environmental Statistics.

Birth and Death

The collection of birth and death records began on October 1, 1913. The Department of Environment, Health, and Natural Resources is the custodian of these records. The hospital administrator or person attending a non-hospital delivery is required to file a birth certificate or fetal death report within ten days after delivery. The funeral director or person burying a body is responsible for filing a death certificate with the local registrar within 5 days after death.

The local registrar is the county health director. A clerk of the county health department, designated by the local registrar as deputy registrar, carries out registration procedures locally. The deputy registrar forwards the original birth and death certificates to the Department of Environment, Health, and Natural Resources on the fifth day of the month following the event, where they are processed and permanently preserved. Microfilmed copies and computerized data from birth and death certificates are sent to the National Center for Health Statistics.

North Carolina was admitted into the National Death Registration Area in 1916 and into the National Birth Registration Area in 1917.

Fetal Death

North Carolina law requires the filing of a fetal death report for fetal deaths (stillbirths) of 20 or more weeks gestation. Legislation enacted by the 1971 General Assembly and altered by subsequent legislation (G.S. 14-45.1) requires that therapeutic abortions be reported separately, effective May 19, 1971. Thus, the therapeutic abortion report form now serves in lieu of a fetal death report for abortions occurring at 20 or more weeks gestation. For this reason, counts of fetal deaths and perinatal deaths since 1971 are not strictly comparable to counts in previous years.

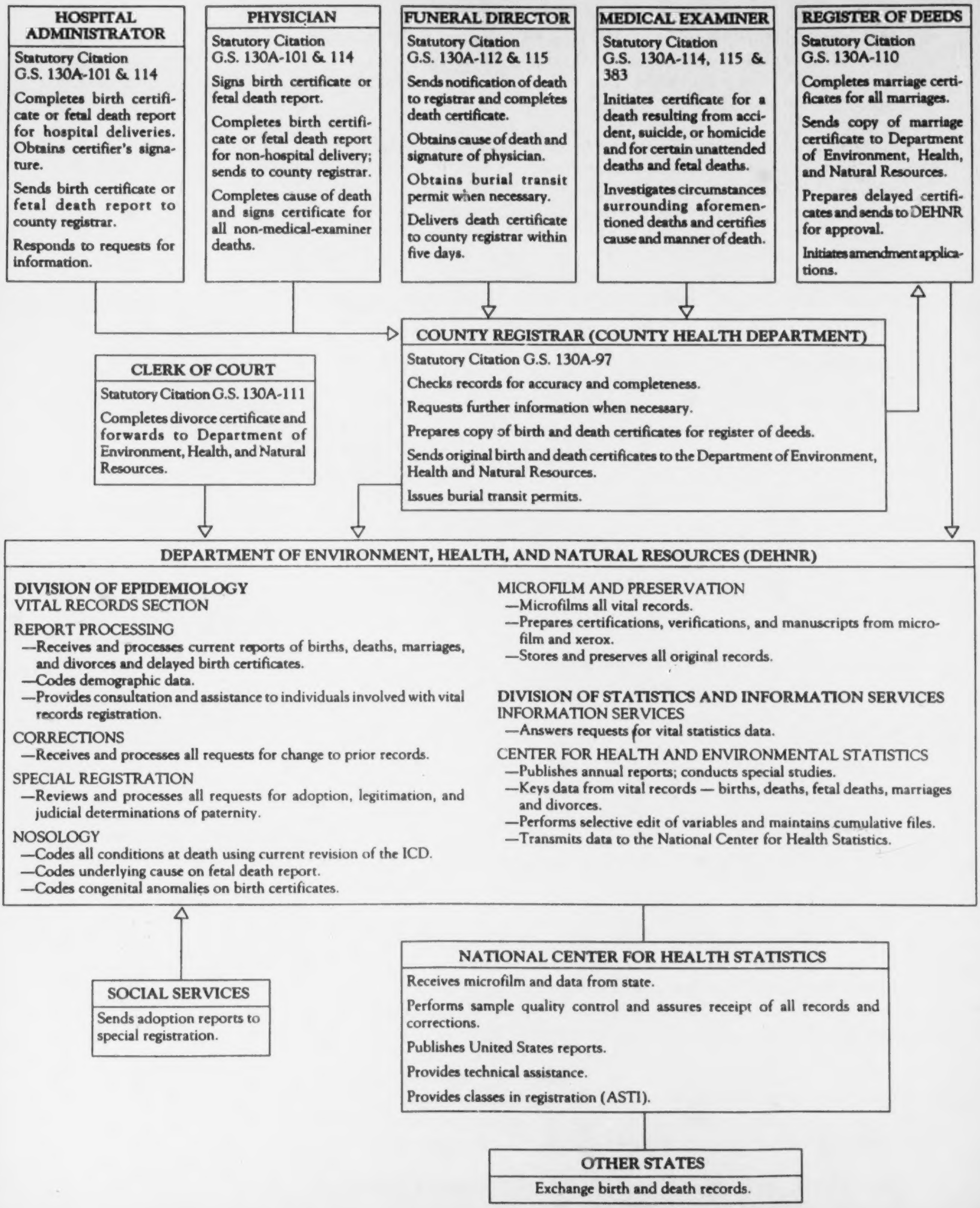
Marriage and Divorce

In 1957, the General Assembly enacted legislation requiring that the duties of the clerk of court include the registration of divorces and annulments of marriage effective January 1, 1958. Certificates of divorce and annulments are required to be sent to the Department of Environment, Health, and Natural Resources on or before the 15th day of the month following the event. The filing of certificates of divorce rather than divorce listings was implemented January 1, 1984 following legislation in 1983.

By virtue of legislation enacted in 1961, the duties of the county register of deeds include the registration of marriages occurring on or after January 1, 1962. Copies of the certificates of marriage are required to be forwarded to the Department of Environment, Health, and Natural Resources on or before the 15th day of the month following the marriage. The original certificates are filed with the county register of deeds.

In January 1964, North Carolina was admitted to the National Marriage Registration Area. North Carolina is not a member of the National Divorce Registration Area.

THE ORIGIN, FLOW, AND DISPOSITION OF VITAL RECORDS
NORTH CAROLINA



HOSPITAL ADMINISTRATOR

Statutory Citation
G.S. 130A-101 & 114

Completes birth certificate or fetal death report for hospital deliveries. Obtains certifier's signature.

Sends birth certificate or fetal death report to county registrar.

Responds to requests for information.

PHYSICIAN

Statutory Citation
G.S. 130A-101 & 114

Signs birth certificate or fetal death report.

Completes birth certificate or fetal death report for non-hospital delivery; sends to county registrar.

Completes cause of death and signs certificate for all non-medical-examiner deaths.

FUNERAL DIRECTOR

Statutory Citation
G.S. 130A-112 & 115

Sends notification of death to registrar and completes death certificate.

Obtains cause of death and signature of physician.

Obtains burial transit permit when necessary.

Delivers death certificate to county registrar within five days.

MEDICAL EXAMINER

Statutory Citation
G.S. 130A-114, 115 & 383

Initiates certificate for a death resulting from accident, suicide, or homicide and for certain unattended deaths and fetal deaths.

Investigates circumstances surrounding aforementioned deaths and certifies cause and manner of death.

REGISTER OF DEEDS

Statutory Citation
G.S. 130A-110

Completes marriage certificates for all marriages.

Sends copy of marriage certificate to Department of Environment, Health, and Natural Resources.

Prepares delayed certificates and sends to DEHNR for approval.

Initiates amendment applications.

COUNTY REGISTRAR (COUNTY HEALTH DEPARTMENT)

Statutory Citation G.S. 130A-97

Checks records for accuracy and completeness.

Requests further information when necessary.

Prepares copy of birth and death certificates for register of deeds.

Sends original birth and death certificates to the Department of Environment, Health and Natural Resources.

Issues burial transit permits.

CLERK OF COURT

Statutory Citation G.S. 130A-111

Completes divorce certificate and forwards to Department of Environment, Health, and Natural Resources.

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES (DEHNR)

DIVISION OF EPIDEMIOLOGY
VITAL RECORDS SECTION

REPORT PROCESSING
—Receives and processes current reports of births, deaths, marriages, and divorces and delayed birth certificates.
—Codes demographic data.
—Provides consultation and assistance to individuals involved with vital records registration.

CORRECTIONS
—Receives and processes all requests for change to prior records.

SPECIAL REGISTRATION
—Reviews and processes all requests for adoption, legitimation, and judicial determinations of paternity.

NOSOLOGY
—Codes all conditions at death using current revision of the ICD.
—Codes underlying cause on fetal death report.
—Codes congenital anomalies on birth certificates.

MICROFILM AND PRESERVATION
—Microfilms all vital records.
—Prepares certifications, verifications, and manuscripts from microfilm and xerox.
—Stores and preserves all original records.

DIVISION OF STATISTICS AND INFORMATION SERVICES
INFORMATION SERVICES
—Answers requests for vital statistics data.

CENTER FOR HEALTH AND ENVIRONMENTAL STATISTICS
—Publishes annual reports; conducts special studies.
—Keys data from vital records — births, deaths, fetal deaths, marriages and divorces.
—Performs selective edit of variables and maintains cumulative files.
—Transmits data to the National Center for Health Statistics.

SOCIAL SERVICES

Sends adoption reports to special registration.

NATIONAL CENTER FOR HEALTH STATISTICS

Receives microfilm and data from state.

Performs sample quality control and assures receipt of all records and corrections.

Publishes United States reports.

Provides technical assistance.

Provides classes in registration (ASTI).

OTHER STATES

Exchange birth and death records.

V. TECHNICAL NOTES

Residence Allocation

Except as otherwise indicated, vital events in this report are allocated to place of residence. In the case of a birth or fetal death, residence is the usual residence of the mother. For deaths of inmates of long-term institutions (mental, penal, old age, orphan, nursing home, rest home, etc.), the institution is considered the usual residence provided the decedent has resided in the institution at least one year. College students and military personnel are considered residents of the college or military community.

North Carolina participates in an interchange program whereby photocopies of nonresident birth and death certificates are required to be sent to the state of residence within two months of the date of occurrence. The National Center for Health Statistics acts as a control for this interchange through a report from each state which lists the number of each type of vital record sent to every other state. However, delays or omissions in the interchange undoubtedly occur.

Occurrence Allocation

Items 7 and 16 of the tables allocate live births and deaths respectively to place of occurrence regardless of place of residence. Marriage and divorce data are compiled only by place of occurrence—county of license for marriages and county of decree for divorces and annulments—because (i) all states do not engage in an interchange program whereby we receive notification of North Carolina residents who marry or divorce in other states and (ii) the two parties to these proceedings are often residents of different counties or states.

Race or Color Allocation

Two broad categories, "white" and "nonwhite," are used in this report. Nonwhite is predominantly Black (93%) in North Carolina (11). For births and fetal deaths, where one parent is classified as white and the other nonwhite, the child is classified as nonwhite

Due to some cases of dissimilar races of the two parties involved in marriage and divorce/annulment proceedings and to a number of "not stated" race cases, frequencies and rates for these events are shown only for the total.

Completeness of Registration of Vital Events

Completeness of registration is defined as the degree to which reported vital event enumerations agree with the true counts in a given time frame. Birth registration, tested for completeness in 1940 and 1950, was found to be 86 and 96 percent complete respectively (12). Death registration is believed to be even more complete than birth registration. Fetal death registration, tested for completeness in 1974, was found to be 99 percent complete (13).

Marriage registration was tested for completeness in 1963. Over 99 percent of performed marriages terminated in properly recorded certificates of marriage (14).

Delayed registration results in underenumeration of vital events for a specific time period. Frequency counts in this report are based on 1988 events filed with the local registrar prior to April 1, 1989 and processed in the state office before the end of June 1989. Based on examinations of lagtimes in prior years, the number of calendar year events filed after April 1 of the subsequent year is considered negligible.

In addition to the above, a source of incompleteness in residence data could involve failure of other states to send photocopies for North Carolina resident events occurring in their states. The extent to which this occurs is unknown.

Accuracy of Items on Certificate

The Vital Records Section maintains continuous surveillance of certificates to detect inconsistencies in related items (e.g., newborn's name vs. sex). However, the true extent of bias and unreliability due to incorrect answers is not known.

Treatment of Missing Values

As a result of a query program to reconcile inconsistencies in the data and to complete unanswered items, missing values are rare for the characteristics included in this report. These "not stated" cases are treated in one of two ways:

(1) not allocated because they are believed to have an unknown distribution which is different from the distribution for "stated" cases;

(2) randomly distributed in the same proportion as the "stated" cases for the state.

The following table shows the number and treatment of missing values in the statistical files underlying this report. In the case of race and legitimacy, most of the missing values are due to absence of these items on certificates from other states.

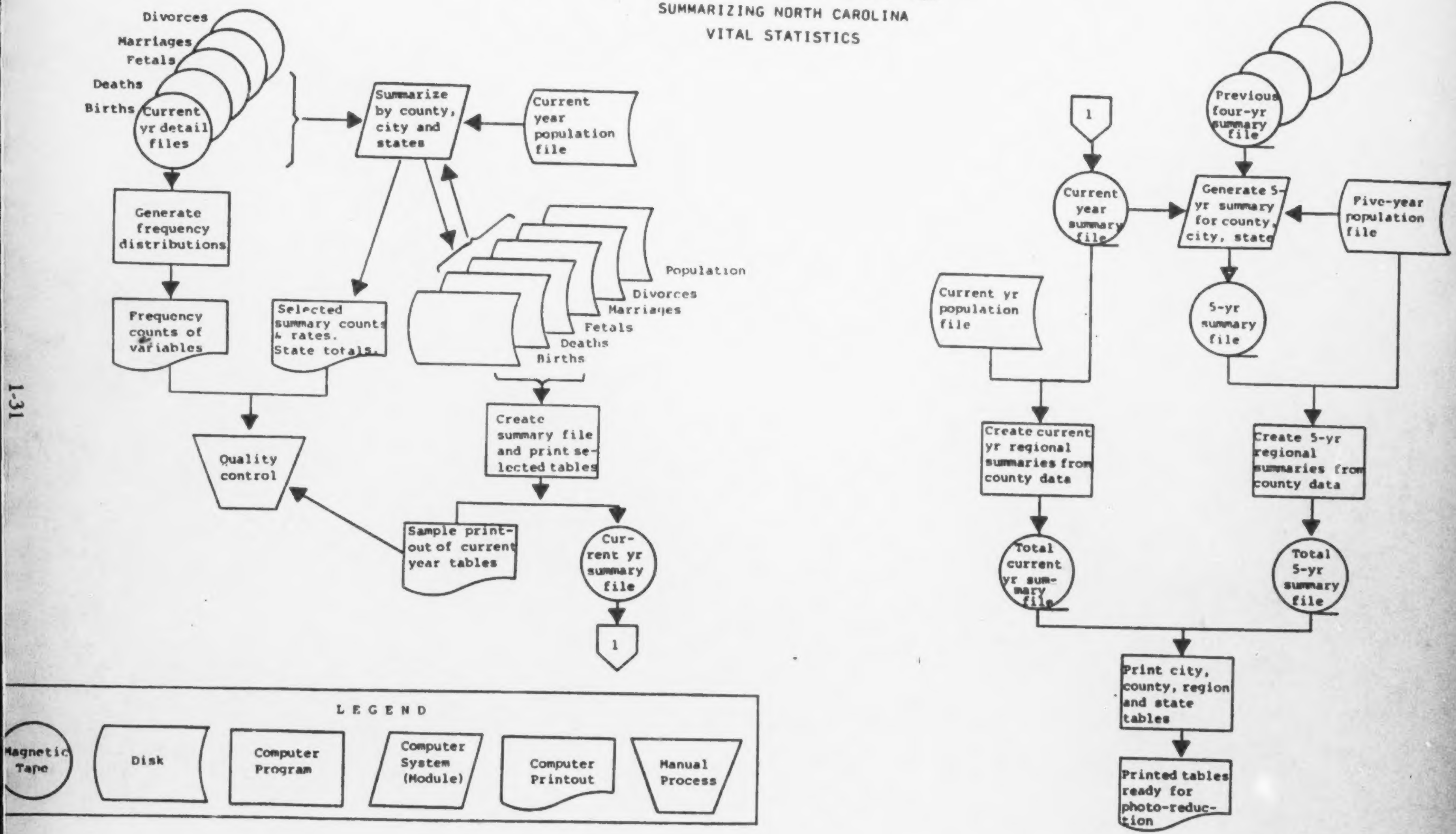
Number of Missing Values by Item and Treatment
North Carolina 1988

	Treatment of Missing Values	
	Treatment 1	**Treatment 2**
Live Births		
Sex	0	5
Birth Weight	144	0
Legitimacy	10	0
Race	0	27
Deaths		
Age	0	10
Race	0	36
Sex	0	3
Fetals		
Legitimacy	2	0
Race	0	2
Sex	0	8

Data Processing

The computer information system used to generate the data of this report is depicted on the next page.

COMPUTER INFORMATION SYSTEM FOR SUMMARIZING NORTH CAROLINA VITAL STATISTICS


Divorces
Marriages
Fetals
Deaths
Births
Current yr detail files
Summarize by county, city and states
Current year population file
Generate frequency distributions
Frequency counts of variables
Selected summary counts & rates. State totals.
Population
Divorces
Marriages
Fetals
Deaths
Births
Create summary file and print selected tables
Quality control
Sample printout of current year tables
Current yr summary file
1
LEGEND
Magnetic Tape
Disk
Computer Program
Computer System (Module)
Computer Printout
Manual Process
1
Current year summary file
Previous four-yr summary file
Generate 5-yr summary for county, city, state
Five-year population file
Current yr population file
5-yr summary file
Create current yr regional summaries from county data
Create 5-yr regional summaries from county data
Total current yr summary file
Total 5-yr summary file
Print city, county, region and state tables
Printed tables ready for photo-reduction

VI. POPULATION BASES AND BIASES IN PRE-1980 VITAL STATISTICS RATES

Every ten years (years ending in zero) the U.S. Bureau of the Census conducts a count of the United States population, which includes a profile of the population's characteristics such as age, race, and sex. After a census year, estimates of population size and composition are based on knowledge of the population in the census year plus subsequent events such as births, deaths, and migration. In the latter years of a decade, estimates may depart considerably from "true" population values to the extent that assumptions, particularly about in- and out-migration, depart from what has actually occurred. Thus, an estimate of the 1979 population of North Carolina based on projection from 1970 may differ from an estimate of the 1979 population based on knowledge of a more current (1980) census count. Since most vital statistics rates are based on population counts in the denominator, changes in population which might result from a new census may cause substantial change in the trend of rates over time.

To complicate the problem even further, there was an undercount of the population of North Carolina in the 1970 census, particularly among nonwhites.Thus, projections for later years were low and rates based on those population projections correspondingly high. Therefore, changing to 1980 census figures for rate denominators caused a decrease in rates from 1979 to 1980, to the extent that the 1980 census figures were higher than 1980 projections based on the 1970 census.

Users of CHES (formerly, the State Center for Health Statistics) publications for 1979 and prior years must be aware of these biases when looking at trends in rates, particularly when analysis is at the county level or for the nonwhite population. For further detail concerning biases in the population-based rates published for the 1970's, the user should refer to pages 1-33 through 1-37 of the 1980 version of this publication.

VII. DEFINITIONS AND FORMULAS

Vital events are exhibited in the tables of this report by frequencies and rates. The term "rate" usually means the number of vital events in a given period of time divided by the average number of people at risk during that period. In this report, the average number of people at risk is usually the midyear population, the period is a year or five years, and the rate is expressed per 1,000 population. For example, the formula for a single-year birth rate is

$$\frac{B}{P} \times 1{,}000$$

where B is the number of births in the year and P is the midyear population. Similarly, the formula for a five-year birth rate is

$$\frac{B_1 + B_2 + B_3 + B_4 + B_5}{P_1 + P_2 + P_3 + P_4 + P_5} \times 1{,}000$$

where B_1, B_2, etc. are the numbers of births in the particular years and P_1, P_2, etc. are the midyear populations in those years.

The term rate is also used in this report to mean a simple proportion expressed per 100 or per 1,000. These rates are the ratio of two related vital event counts. An example of this type of rate is the single-year infant mortality rate. The formula is

$$\frac{D}{B} \times 1{,}000$$

where D represents deaths of infants during a year and B represents live births during the same year. Another example is the premature rate which is the ratio of premature births to total births expressed as a percentage.

$$\frac{P}{B} \times 100$$

Rates are rounded to one decimal place for publication. Except for marriage and divorce events for which race-specific rates are not calculated, a blank in the rate column indicates that both the numerator and the denominator are zero. A rate of 0.0 is shown for rates less than 0.05.

Inaccurate reporting, underregistration and missing values have been discussed (Section V). These factors affect the validity of items of information involved in rate computation. The users of vital statistics measures should be aware of these possible limitations.

Furthermore, one should interpret with caution rates which are based on small frequencies since they may be associated with relatively large *chance* fluctuation. For this reason, five-year rates are included. Based on an increased number of events, these average annual rates are more stable than the single-year rates.

In comparing rates, one must carefully examine the various factors to which a difference in rates might be attributed. Unless the populations are equivalent in all factors except the one for which the comparison is made, conclusions about differences in rates may not be clearly drawn. Age-adjusted rates or other further analyses may be necessary in order to make valid comparisons.

Definitions and formulas are given in the numerical order of their appearance in the tables. Except for items 7 and 16-18, rates are for ***resident*** events.

Definitions

1. **Population** is the expected population of an area as of July 1 of the event year. Figures shown in the tables of this report are summations over age-race-sex-specific estimates provided by the State Office of Budget and Management.

2. **Natural Increase** is the excess of births over deaths among residents of an area.

3. A **Live Birth** is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or any definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached (definition adopted by World Health Organization in 1950).

4. **Attendant** is a physician in a hospital, a physician not in a hospital, a certified nurse midwife, or a permitted midwife. Legislation during 1979-81 allows a certified nurse midwife (CNM) to perform deliveries in a hospital or other medical facility and to obtain a permit to perform deliveries outside a medical facility.

5. **Premature Birth** is defined as birth of a liveborn infant weighing under 2,500 grams (5 pounds, 8 ounces or less) at birth, regardless of the period of gestation. (Birth weight index recommended by the Expert Group on Prematurity of the World Health Organization, 1950).

6. **Birth Out of Wedlock** is birth to a woman who has never been legally married or who has been widowed or legally divorced from her husband in excess of 280 days (15).

7. An **Occurrence Birth** is one that occurs in an area irrespective of place of residence. Live births occurring in an area to residents of the area are also shown in the tables. Complementary totals, i.e., nonresident births occurring in the area and resident births occurring elsewhere, may be obtained by subtraction.

8. **Perinatal Deaths** are the sum of registered fetal deaths and neonatal deaths (see definitions below).

9. **Fetal Death** is death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy, as indicated by the fact that after such expulsion or extraction the fetus does not breathe or show any evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles (definition adopted by World Health Organization in 1950). Consistent with North Carolina law, this report includes only fetal deaths which do not qualify as therapeutic abortions and which result from pregnancies of 20 or more weeks gestation (see Section IV).

10. **Neonatal Death** is death of a liveborn child under 28 days of age.

11. **Postneonatal Death** is death of an infant 28 days and over but less than 1 year of age.

12. **Infant Death** is defined as death of a liveborn infant under one year of age.

13. **Death** is defined as the permanent disappearance of any evidence of life at any time after live birth (16). Also, North Carolina law (G.S. 90-322) defines criteria for certifying "brain death."

14. **Age at Death** is reported age in completed years as of the last birthday. Errors in reporting are believed to include underestimates for ages 22 through middle age and overestimates for persons nearing their 21st and 65th birthdays and for those over age 65. Preferences for ages ending in certain digits (e.g., age ending in 0 and 5) may also result in undue concentrations of reported ages (17).

15. **Place of Death** is the hospital, other institution or noninstitution place of death.

16. An **Occurrence Death** is one that occurs in an area irrespective of place of residence.

17. **Marriage** is defined as the legal union of a male and a female (North Carolina G.S. 51-1). Marriages are by place of occurrence and race-specific data are not shown (see Section V).

18. **Divorces and Annulments** can occur only by decree of an authorized court. Annulments, which void marriage from the beginning, constitute less than one percent of the sum of these events. A divorce from bed and board is a judicial separation suspending cohabitation but not otherwise affecting the marriage bond. Divorces from bed and board are not included in this report. Divorces and annulments are by place of occurrence and race-specific data are not shown (see Section V).

Formulas

1. **Population**

$$\text{Percentage of N.C. population residing in area} = \frac{\text{Population of area}}{\text{Population of North Carolina}} \times 100$$

$$\text{Percentage male population in area} = \frac{\text{Male population of area}}{\text{Total population of area}} \times 100$$

$$\text{Percentage female population in area} = \frac{\text{Female population of area}}{\text{Total population of area}} \times 100$$

2. **Natural Increase**

$$\text{Rate of natural increase} = \frac{\text{Number of live births minus number of deaths}}{\text{Population of area}} \times 1{,}000$$

3. **Live Births**

$$\text{Birth rate} = \frac{\text{Number of live births}}{\text{Population of area}} \times 1{,}000$$

$$\text{Male birth rate} = \frac{\text{Number of male live births}}{\text{Population of area}} \times 1{,}000$$

$$\text{Female birth rate} = \frac{\text{Number of female live births}}{\text{Population of area}} \times 1{,}000$$

4. **Attendant**

$$\text{Percentage of live births attended by physician in hospital} = \frac{\text{Number of live births attended by physician in hospital}}{\text{Number of live births}} \times 100$$

$$\text{Percentage of live births attended by physician not in hospital} = \frac{\text{Number of live births attended by physician not in hospital}}{\text{Number of live births}} \times 100$$

$$\text{Percentage of live births attended by certified nurse midwife} = \frac{\text{Number of live births attended by certified nurse midwife}}{\text{Number of live births}} \times 100$$

$$\text{Percentage of live births attended by permitted midwife} = \frac{\text{Number of live births attended by permitted midwife}}{\text{Number of live births}} \times 100$$

5. Premature Births

$$\text{Percentage of live births classified as premature} = \frac{\text{Number of premature live births}}{\text{Number of live births}} \times 100$$

6. Births out of Wedlock

$$\text{Percentage of live births occurring out of wedlock} = \frac{\text{Number of live births occurring out of wedlock}}{\text{Number of live births}} \times 100$$

7. Occurrence Births

$$\text{Percentage of N.C. live births occurring in area} = \frac{\text{Number of live births occurring in area}}{\text{Number of live births occurring in N.C.}} \times 100$$

$$\text{Percentage of area live births occurring to residents of area} = \frac{\text{Number of resident live births occurring in area}}{\text{Number of total live births occurring in area}} \times 100$$

8. Perinatal Deaths

$$\text{Perinatal mortality rate} = \frac{\text{Number of fetal deaths plus number of neonatal deaths}}{\text{Number of live births plus number of fetal deaths}} \times 1{,}000$$

9. Fetal Deaths

$$\text{Fetal mortality rate} = \frac{\text{Number of fetal deaths}}{\text{Number of live births plus number of fetal deaths}} \times 1{,}000$$

$$\text{Percentage of fetal deaths attended by physician in hospital} = \frac{\text{Number of fetal deaths attended by physician in hospital}}{\text{Number of fetal deaths}} \times 100$$

$$\text{Percentage of fetal deaths attended by physician not in hospital} = \frac{\text{Number of fetal deaths attended by physician not in hospital}}{\text{Number of fetal deaths}} \times 100$$

$$\text{Percentage of fetal deaths attended by certified nurse midwife} = \frac{\text{Number of fetal deaths attended by certified nurse midwife}}{\text{Number of fetal deaths}} \times 100$$

$$\text{Percentage of fetal deaths attended by permitted midwife} = \frac{\text{Number of fetal deaths attended by permitted midwife}}{\text{Number of fetal deaths}} \times 100$$

$$\text{Percentage of fetal deaths occurring out of wedlock} = \frac{\text{Number of fetal deaths occurring out of wedlock}}{\text{Number of fetal deaths}} \times 100$$

10. **Neonatal Deaths**

$$\text{Neonatal mortality rate} = \frac{\text{Number of neonatal deaths}}{\text{Number of live births}} \times 1{,}000$$

11. **Postneonatal Deaths**

$$\text{Postneonatal mortality rate} = \frac{\text{Number of postneonatal deaths}}{\text{Number of live births minus number of neonatal deaths}} \times 1{,}000$$

12. **Infant Deaths**

$$\text{Infant mortality rate} = \frac{\text{Number of infant deaths}}{\text{Number of live births}} \times 1{,}000$$

13. **Deaths**

$$\text{Death rate} = \frac{\text{Number of deaths}}{\text{Population of area}} \times 1{,}000$$

$$\text{Male-specific death rate} = \frac{\text{Number of male deaths}}{\text{Male population of area}} \times 1{,}000$$

$$\text{Female-specific death rate} = \frac{\text{Number of female deaths}}{\text{Female population of area}} \times 1{,}000$$

14. **Age-specific Deaths**

$$\text{Age-specific death rate} = \frac{\text{Number of deaths in age group}}{\text{Population in age group}} \times 1{,}000$$

15. Place of Death

$$\text{Percentage of deaths occurring in hospitals} = \frac{\text{Number of deaths in hospitals}}{\text{Number of deaths}} \times 100$$

$$\text{Percentage of deaths occurring in nonhospital institutions} = \frac{\text{Number of deaths in non-hospital institutions}}{\text{Number of deaths}} \times 100$$

$$\text{Percentage of deaths occurring in home or noninstitution} = \frac{\text{Number of deaths in home or noninstitutions}}{\text{Number of deaths}} \times 100$$

16. Occurrence Deaths

$$\text{Percentage of N.C. deaths occurring in area} = \frac{\text{Number of deaths occurring in area}}{\text{Number of deaths occurring in North Carolina}} \times 100$$

$$\text{Percentage of area deaths occurring to residents of area} = \frac{\text{Number of resident deaths occurring in area}}{\text{Number of total deaths occurring in area}} \times 100$$

17. Marriages

$$\text{Marriage rate} = \frac{\text{Number of marriages occurring in area}}{\text{Population of area}} \times 1{,}000$$

18. Divorces and Annulments

$$\text{Divorce/Annulment rate} = \frac{\text{Number of divorces and annulments occurring in area}}{\text{Population of area}} \times 1{,}000$$

Symbols

Quantity (frequency) is zero	0
Rate is less than 0.05	0.0
Rate is not applicable	blank space

REFERENCES

(1) Ewing, Francine J. "North Carolina," *American Demographics*. Vol. 6, No. 9. September 1984, pp. 46-49.

(2) N.C. Office of State Budget and Management. "North Carolina Population Projections 1988-2010: Assumptions and Methods," March 1989. Raleigh, NC.

(3) Surles, Kathryn B.; Sullivan, Lee A.; Nelson, M.D.Jr. "Health of the Elderly in North Carolina: Population at Risk and Patterns and Trends in Mortality," *SCHS Studies*. No. 51, June 1989. Raleigh, NC.

(4) Surles, Kathryn B. "North Carolina's Health," *SCHS Studies*. No. 28, December 1983. Raleigh, NC.

(5) N.C. Office of State Budget and Management. Personal communication with State Data Center, William Scheideler. November 21, 1989.

(6) U.S. Bureau of the Census. Statistical Abstract of the United States: 1989 (109th edition). 1989, Nos. 701 and 735. Washington, D.C.

(7) National Center for Health Statistics. "Annual Summary of Births, Marriages, Divorces, and Deaths: United States, 1988," *Monthly Vital Statistics Report*. Vol. 37, No. 13. Hyattsville, Maryland: Public Health Service. 1989.

(8) National Center for Health Statistics. "Advance Report of Final Natality Statistics, 1987," *Monthly Vital Statistics Report*. Vol. 38, No. 3, suppl. Hyattsville, Maryland: Public Health Service. 1989.

(9) National Center for Health Statistics. Personal communication with Statistical Resources Branch, Karen Lipkind. October 20, 1989.

(10) Barr, Anthony J.; Goodnight, James H.; Sals, John P.; and Helwig, Jane T. *Statistical Analysis System*, Cluster Procedure. SAS Institute, Inc., Raleigh, N.C. 1976.

(11) U.S. Bureau of the Census. *Advance Reports: 1980 Census of Population and Housing*. PHC80-V-35, North Carolina Final Population and Housing Unit Counts. U.S. Government Printing Office, Washington, D.C. March 1981.

(12) U.S. Department of Health, Education, and Welfare. "Birth Registration Completeness in the United States and Geographical Areas, 1950." Vol. 39, No. 2. Public Health Service, National Office of Vital Statistics. September 21, 1954.

(13) Lucas, I.J. *A Study of Completeness of Fetal Death Registration in North Carolina*. North Carolina Department of Human Resources, Division of Health Services Statistical Report Series, No. SRS-5141-07-28-75. Raleigh, N.C. 1975.

(14) North Carolina State Board of Health, Public Health Statistics Section. Test conducted in compliance with procedures of the National Office of Vital Statistics.

(15) North Carolina State Board of Health, Public Health Statistics Section. "Hospital Handbook for Vital Statistics Registration." Raleigh, N.C.

(16) Grove, R.D. and Hetzel, A.M. *Vital Statistics Rates in the United States: 1940-1960*. Public Health Service Publication No. 1677. U.S. Government Printing Office, Washington, D.C. 1968.

(17) Spiegelman, M. *Introduction to Demography*. Harvard University Press, Cambridge, Mass. 1969.

STATE
TABLE

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

NORTH CAROLINA

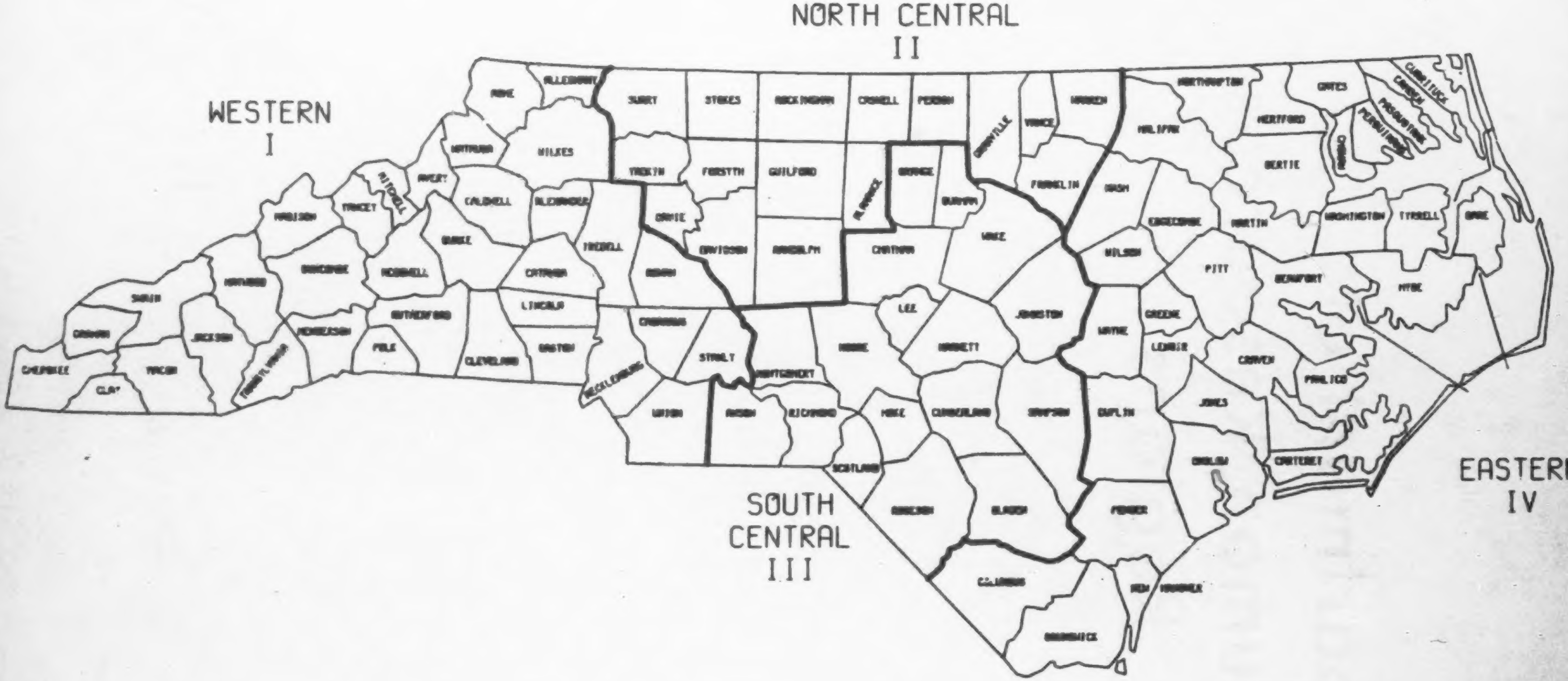
ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	6487438	100.0	100.0	4918363	100.0	100.0	1569075	100.0	100.0
MALES	3123085	48.1	48.3	2390021	48.6	48.7	733064	46.7	47.2
FEMALES	3364353	51.9	51.7	2528342	51.4	51.3	836011	53.3	52.8
2. NATURAL INCREASE	39930	6.2	5.8	22429	4.6	4.5	17501	11.2	10.0
LIVE BIRTHS									
3. TOTAL	97560	15.0	14.4	65937	13.4	13.1	31623	20.2	18.6
MALES	49708	7.7	7.4	33634	6.8	6.7	16074	10.2	9.4
FEMALES	47852	7.4	7.1	32303	6.6	6.4	15549	9.9	9.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	95740	98.1	98.1	64511	97.8	97.8	31229	98.8	98.8
PHYSICIAN NOT IN HOSPITAL	178	0.2	0.2	92	0.1	0.1	86	0.3	0.2
#CERTIFIED NURSE MIDWIFE	1448	1.5	1.5	1186	1.8	1.8	262	0.8	0.8
PERMITTED MIDWIFE	8	0.0	0.0	7	0.0	0.0	1	0.0	0.0
5. PREMATURE BIRTHS	7822	8.0	7.9	4003	6.1	6.1	3819	12.1	11.9
6. OUT OF WEDLOCK	25620	26.3	23.7	7685	11.7	9.8	17935	56.7	53.9
7. OCCURRENCE									
TOTAL	97867	100.0	100.0	66200	100.0	100.0	31667	100.0	100.0
TO RESIDENTS	96288	98.4	98.3	64929	98.1	98.0	31359	99.0	99.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	1667	16.9	16.8	862	13.0	13.5	805	25.1	23.7
9. FETAL DEATHS	872	8.9	8.7	443	6.7	7.2	429	13.4	12.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	844	96.8	96.9	433	97.7	97.3	411	95.8	96.3
PHYSICIAN NOT IN HOSPITAL	12	1.4	1.2	1	0.2	0.6	11	2.6	1.9
#CERTIFIED NURSE MIDWIFE	3	0.3	0.4	2	0.5	0.7	1	0.2	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	356	40.8	35.5	78	17.6	16.0	278	64.8	60.5
10. NEONATAL (UNDER 28 DAYS)	795	8.1	8.1	419	6.4	6.4	376	11.9	11.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	432	4.5	4.1	216	3.3	3.2	216	6.9	6.0
12. INFANT DEATHS (UNDER 1 YEAR)	1227	12.6	12.2	635	9.6	9.6	592	18.7	17.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	57630	8.9	8.6	43508	8.8	8.6	14122	9.0	8.6
MALES	30546	9.8	9.5	22811	9.5	9.4	7735	10.6	10.0
FEMALES	27084	8.1	7.7	20697	8.2	7.8	6387	7.6	7.3
14. AGE									
00-04 YEARS	1461	3.4	3.1	761	2.5	2.4	700	5.5	4.6
05-14 YEARS	251	0.3	0.3	152	0.2	0.3	99	0.4	0.4
15-24 YEARS	1005	0.9	1.0	679	0.9	1.0	326	1.1	1.0
25-34 YEARS	1525	1.4	1.3	910	1.1	1.1	615	2.2	2.0
35-44 YEARS	2233	2.4	2.3	1314	1.8	1.8	919	4.4	4.2
45-54 YEARS	3626	5.4	5.6	2445	4.5	4.7	1181	9.4	9.3
55-64 YEARS	8081	13.6	13.8	5940	12.2	12.4	2141	19.7	19.8
65 AND OVER	39448	50.5	49.9	31307	49.2	48.7	8141	56.6	54.7
15. PLACE OF DEATH									
HOSPITAL	35669	61.9	62.8	26431	60.7	61.9	9238	65.4	65.5
OTHER INSTITUTION	9991	17.3	17.1	8039	18.5	18.2	1952	13.8	13.8
HOME OR NON-INSTITUTION	11970	20.8	20.1	9038	20.8	19.9	2932	20.8	20.7
16. OCCURRENCE									
TOTAL	58005	100.0	100.0	43844	100.0	100.0	14161	100.0	100.0
TO RESIDENTS	56118	96.7	96.8	42312	96.5	96.5	13806	97.5	97.8
OTHER EVENTS									
17. MARRIAGES	51918	8.0	8.1						
18. DIVORCES AND ANNULMENTS	32396	5.0	4.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

Department of
Human Resources
Regions

REGION
TABLES

NORTH CAROLINA DHR REGIONS


NORTH CENTRAL
II
WESTERN
I
SOUTH
CENTRAL
III
EASTERN
IV
ASHE
ALLEGHANY
SURRY
STOKES
ROCKINGHAM
CASWELL
PERSON
GRANVILLE
VANCE
WARREN
NORTHAMPTON
HERTFORD
GATES
CURRITUCK
CAMDEN
PASQUOTANK
PERQUIMANS
CHOWAN
WATAUGA
WILKES
YADKIN
FORSYTH
GUILFORD
ALAMANCE
ORANGE
DURHAM
FRANKLIN
HALIFAX
NASH
BERTIE
MARTIN
WASHINGTON
TYRRELL
DARE
MITCHELL
AVERY
YANCEY
MADISON
CALDWELL
ALEXANDER
DAVIE
IREDELL
DAVIDSON
RANDOLPH
CHATHAM
WAKE
EDGECOMBE
WILSON
PITT
BEAUFORT
HYDE
HAYWOOD
BUNCOMBE
BURKE
MCDOWELL
CATAWBA
ROWAN
SWAIN
GRAHAM
CHEROKEE
CLAY
MACON
JACKSON
TRANSYLVANIA
HENDERSON
RUTHERFORD
POLK
CLEVELAND
LINCOLN
GASTON
MECKLENBURG
CABARRUS
STANLY
UNION
ANSON
MONTGOMERY
RICHMOND
MOORE
LEE
HARNETT
JOHNSTON
WAYNE
GREENE
LENOIR
CRAVEN
PAMLICO
JONES
HOKE
CUMBERLAND
SAMPSON
DUPLIN
ONSLOW
CARTERET
SCOTLAND
ROBESON
BLADEN
PENDER
COLUMBUS
NEW HANOVER
BRUNSWICK

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

D.H.R. I - WESTERN

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	2223543	34.3	34.2	1905516	38.7	38.8	318027	20.3	20.1
MALES	1066366	48.0	48.1	918845	48.2	48.3	147521	46.4	46.8
FEMALES	1157177	52.0	51.9	986671	51.8	51.7	170506	53.6	53.2
2. NATURAL INCREASE	11321	5.1	4.7	7232	3.8	3.6	4089	12.9	11.1
LIVE BIRTHS									
3. TOTAL	31607	14.2	13.5	24768	13.0	12.5	6839	21.5	19.4
MALES	16086	7.2	6.9	12622	6.6	6.4	3464	10.9	9.9
FEMALES	15521	7.0	6.6	12146	6.4	6.1	3375	10.6	9.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	31268	98.9	98.7	24470	98.8	98.5	6798	99.4	99.3
PHYSICIAN NOT IN HOSPITAL	49	0.2	0.1	31	0.1	0.1	18	0.3	0.2
#CERTIFIED NURSE MIDWIFE	218	0.7	0.9	206	0.8	1.0	12	0.2	0.4
PERMITTED MIDWIFE	7	0.0	0.0	7	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	2490	7.9	7.6	1572	6.3	6.3	918	13.4	12.5
6. OUT OF WEDLOCK	7643	24.2	21.5	3428	13.8	11.6	4215	61.6	59.4
7. OCCURRENCE									
TOTAL	32159	32.9	32.5	25208	38.1	37.6	6951	22.0	21.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	524	16.4	16.4	354	14.2	14.3	170	24.5	24.7
9. FETAL DEATHS	265	8.3	8.8	171	6.9	7.9	94	13.6	12.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	256	96.6	96.9	167	97.7	97.3	89	94.7	96.1
PHYSICIAN NOT IN HOSPITAL	3	1.1	1.3	0	0.0	0.7	3	3.2	2.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.5	0	0.0	0.7	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	107	40.4	31.1	38	22.2	18.1	69	73.4	62.2
10. NEONATAL (UNDER 28 DAYS)	259	8.2	7.6	183	7.4	6.4	76	11.1	12.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	143	4.6	3.9	90	3.7	3.4	53	7.8	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	402	12.7	11.5	273	11.0	9.8	129	18.9	18.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	20286	9.1	8.8	17536	9.2	8.8	2750	8.6	8.3
MALES	10684	10.0	9.7	9207	10.0	9.7	1477	10.0	9.7
FEMALES	9602	8.3	7.9	8329	8.4	8.0	1273	7.5	7.1
14. AGE									
00-04 YEARS	467	3.3	2.8	317	2.7	2.4	150	5.7	5.0
05-14 YEARS	80	0.3	0.3	64	0.3	0.3	16	0.3	0.3
15-24 YEARS	315	0.9	1.0	259	0.9	1.0	56	0.9	1.0
25-34 YEARS	498	1.3	1.3	374	1.2	1.1	124	2.2	2.1
35-44 YEARS	718	2.2	2.1	518	1.8	1.8	200	4.5	4.3
45-54 YEARS	1234	5.1	5.4	1004	4.7	4.8	230	8.9	10.1
55-64 YEARS	2751	12.9	12.9	2313	12.0	12.1	438	21.3	20.3
65 AND OVER	14223	49.1	48.2	12687	48.3	47.6	1536	56.7	54.4
15. PLACE OF DEATH									
HOSPITAL	12151	59.9	61.9	10420	59.4	61.5	1731	62.9	64.6
OTHER INSTITUTION	3811	18.8	17.9	3406	19.4	18.6	405	14.7	13.8
HOME OR NON-INSTITUTION	4324	21.3	20.1	3710	21.2	19.9	614	22.3	21.6
16. OCCURRENCE									
TOTAL	20369	35.1	34.7	17571	40.1	39.5	2798	19.8	19.8
OTHER EVENTS									
17. MARRIAGES	16829	7.6	7.6						
18. DIVORCES AND ANNULMENTS	11086	5.0	5.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

D.H.R. II - NORTH CENTRAL

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1363322	21.0	21.1	1053464	21.4	21.5	309858	19.7	19.7
MALES	648257	47.5	47.7	504915	47.9	48.0	143342	46.3	46.7
FEMALES	715065	52.5	52.3	548549	52.1	52.0	166516	53.7	53.3
2. NATURAL INCREASE	6605	4.8	4.3	3647	3.5	3.2	2958	9.5	8.1
LIVE BIRTHS									
3. TOTAL	19036	14.0	13.2	13243	12.6	12.1	5793	18.7	16.8
MALES	9713	7.1	6.7	6753	6.4	6.2	2960	9.6	8.5
FEMALES	9323	6.8	6.5	6490	6.2	5.9	2833	9.1	8.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	18745	98.5	98.5	13006	98.2	98.2	5739	99.1	99.2
PHYSICIAN NOT IN HOSPITAL	23	0.1	0.1	6	0.0	0.1	17	0.3	0.2
#CERTIFIED NURSE MIDWIFE	228	1.2	1.1	204	1.5	1.5	24	0.4	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1606	8.4	8.2	874	6.6	6.4	732	12.6	12.6
6. OUT OF WEDLOCK	5020	26.4	23.9	1538	11.6	9.8	3482	60.1	58.3
7. OCCURRENCE									
TOTAL	17254	17.6	17.6	12387	18.7	18.7	4867	15.4	15.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	302	15.7	15.5	152	11.4	12.3	150	25.5	23.3
9. FETAL DEATHS	163	8.5	7.6	82	6.2	6.2	81	13.8	10.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	156	95.7	96.4	81	98.8	97.2	75	92.6	95.4
PHYSICIAN NOT IN HOSPITAL	4	2.5	1.6	0	0.0	1.3	4	4.9	2.1
#CERTIFIED NURSE MIDWIFE	1	0.6	0.4	1	1.2	0.5	0	0.0	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	72	44.2	37.1	12	14.6	16.5	60	74.1	65.4
10. NEONATAL (UNDER 28 DAYS)	139	7.3	8.0	70	5.3	6.2	69	11.9	12.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	96	5.1	4.3	50	3.8	3.5	46	8.0	6.2
12. INFANT DEATHS (UNDER 1 YEAR)	235	12.3	12.3	120	9.1	9.6	115	19.9	18.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	12431	9.1	8.9	9596	9.1	8.9	2835	9.1	8.7
MALES	6592	10.2	9.9	5023	9.9	9.8	1569	10.9	10.2
FEMALES	5839	8.2	7.9	4573	8.3	8.1	1266	7.6	7.4
14. AGE									
00-04 YEARS	278	3.4	3.1	147	2.4	2.5	131	5.8	4.8
05-14 YEARS	49	0.3	0.3	31	0.2	0.3	18	0.4	0.3
15-24 YEARS	204	1.0	1.0	143	0.9	1.0	61	1.0	1.0
25-34 YEARS	320	1.4	1.3	202	1.2	1.1	118	2.2	1.9
35-44 YEARS	446	2.2	2.2	271	1.7	1.8	175	4.1	4.1
45-54 YEARS	741	5.0	5.2	502	4.1	4.4	239	8.9	8.9
55-64 YEARS	1768	13.2	13.3	1347	12.1	12.0	421	18.6	19.3
65 AND OVER	8625	49.6	49.5	6953	48.1	48.4	1672	57.1	54.8
15. PLACE OF DEATH									
HOSPITAL	7690	61.9	62.7	5814	60.6	61.6	1876	66.2	66.5
OTHER INSTITUTION	2166	17.4	17.1	1828	19.0	18.5	338	11.9	12.5
HOME OR NON-INSTITUTION	2575	20.7	20.2	1954	20.4	19.9	621	21.9	21.0
16. OCCURRENCE									
TOTAL	12078	20.8	21.0	9462	21.6	21.8	2616	18.5	18.3
OTHER EVENTS									
17. MARRIAGES	12002	8.8	8.9						
18. DIVORCES AND ANNULMENTS	7029	5.2	5.1						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

D.H.R. III - SOUTH CENTRAL

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1532812	23.6	23.5	1043678	21.2	21.0	489134	31.2	31.0
MALES	742630	48.4	48.7	512125	49.1	49.2	230505	47.1	47.6
FEMALES	790182	51.6	51.3	531553	50.9	50.8	258629	52.9	52.4
2. NATURAL INCREASE	12949	8.4	8.0	6983	6.7	6.4	5966	12.2	11.2
LIVE BIRTHS									
3. TOTAL	25146	16.4	15.7	15103	14.5	14.1	10043	20.5	19.0
MALES	12834	8.4	8.0	7724	7.4	7.2	5110	10.4	9.6
FEMALES	12312	8.0	7.7	7379	7.1	6.9	4933	10.1	9.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	24394	97.0	97.3	14549	96.3	96.5	9845	98.0	98.6
PHYSICIAN NOT IN HOSPITAL	36	0.1	0.1	16	0.1	0.1	20	0.2	0.2
#CERTIFIED NURSE MIDWIFE	661	2.6	2.3	500	3.3	3.2	161	1.6	1.0
PERMITTED MIDWIFE	1	0.0	0.0	0	0.0	0.0	1	0.0	0.0
5. PREMATURE BIRTHS	1959	7.8	7.9	800	5.3	5.6	1159	11.5	11.5
6. OUT OF WEDLOCK	6658	26.5	24.0	1408	9.3	8.2	5250	52.3	48.5
7. OCCURRENCE									
TOTAL	27044	27.6	27.2	16056	24.3	23.8	10988	34.7	34.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	467	18.4	17.4	194	12.8	13.5	273	26.8	23.2
9. FETAL DEATHS	235	9.3	8.8	102	6.7	6.8	133	13.1	12.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	231	98.3	97.4	100	98.0	98.1	131	98.5	96.8
PHYSICIAN NOT IN HOSPITAL	1	0.4	0.8	0	0.0	0.4	1	0.8	1.1
#CERTIFIED NURSE MIDWIFE	2	0.9	0.5	1	1.0	0.8	1	0.8	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	90	38.3	35.9	15	14.7	13.7	75	56.4	55.2
10. NEONATAL (UNDER 28 DAYS)	232	9.2	8.6	92	6.1	6.8	140	13.9	11.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	100	4.0	4.2	47	3.1	3.2	53	5.4	5.8
12. INFANT DEATHS (UNDER 1 YEAR)	332	13.2	12.8	139	9.2	10.0	193	19.2	17.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	12197	8.0	7.7	8120	7.8	7.7	4077	8.3	7.8
MALES	6519	8.8	8.5	4278	8.4	8.2	2241	9.7	9.1
FEMALES	5678	7.2	6.9	3842	7.2	7.1	1836	7.1	6.6
14. AGE									
00-04 YEARS	403	3.8	3.4	169	2.6	2.6	234	5.7	4.5
05-14 YEARS	52	0.2	0.3	26	0.2	0.3	26	0.3	0.3
15-24 YEARS	250	0.9	0.9	152	0.8	0.9	98	1.0	1.0
25-34 YEARS	358	1.3	1.3	167	0.9	0.9	191	2.1	2.0
35-44 YEARS	544	2.5	2.5	276	1.8	1.8	268	4.2	4.1
45-54 YEARS	830	5.6	5.8	492	4.4	4.8	338	8.9	8.8
55-64 YEARS	1791	14.4	14.4	1165	12.5	12.6	626	20.0	19.5
65 AND OVER	7969	51.2	50.7	5673	49.4	49.6	2296	56.3	53.8
15. PLACE OF DEATH									
HOSPITAL	7569	62.1	62.8	4938	60.8	61.4	2631	64.5	65.6
OTHER INSTITUTION	2155	17.7	17.6	1522	18.7	19.1	633	15.5	14.6
HOME OR NON-INSTITUTION	2473	20.3	19.6	1660	20.4	19.6	813	19.9	19.8
16. OCCURRENCE									
TOTAL	13540	23.3	23.5	9012	20.6	20.9	4528	32.0	31.6
OTHER EVENTS									
17. MARRIAGES	10695	7.0	7.0						
18. DIVORCES AND ANNULMENTS	7712	5.0	4.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

D.H.R. IV - EASTERN

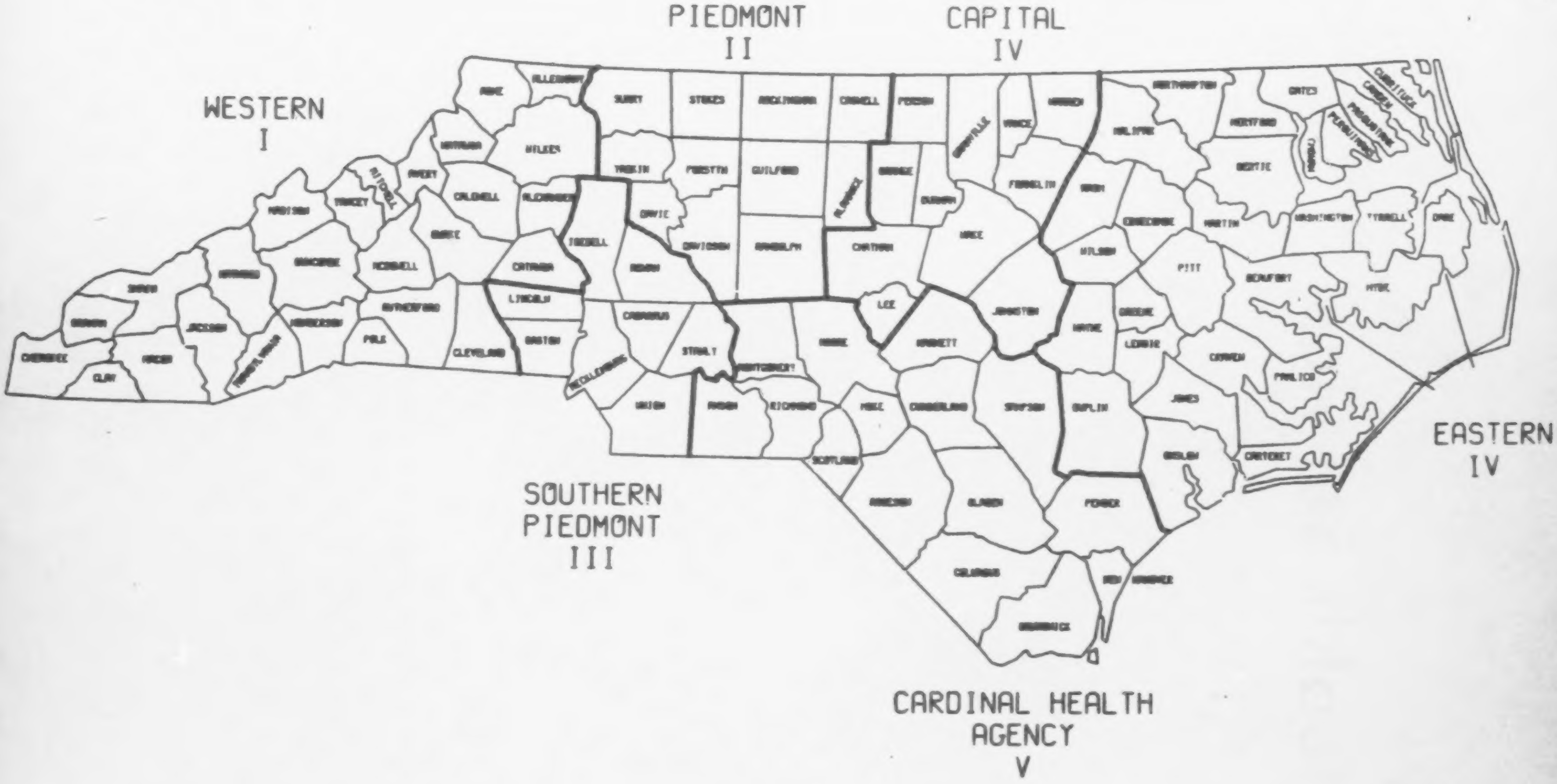
	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1367761	21.1	21.2	915705	18.6	18.6	452056	28.8	29.2
MALES	665832	48.7	48.9	454136	49.6	49.7	211696	46.8	47.3
FEMALES	701929	51.3	51.1	461569	50.4	50.3	240360	53.2	52.7
2. NATURAL INCREASE	9055	6.6	6.8	4567	5.0	5.6	4488	9.9	9.3
LIVE BIRTHS									
3. TOTAL	21771	15.9	15.8	12823	14.0	14.3	8948	19.8	18.7
MALES	11075	8.1	8.0	6535	7.1	7.3	4540	10.0	9.4
FEMALES	10696	7.8	7.8	6288	6.9	7.0	4408	9.8	9.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	21333	98.0	97.9	12486	97.4	97.5	8847	98.9	98.4
PHYSICIAN NOT IN HOSPITAL	70	0.3	0.3	39	0.3	0.2	31	0.3	0.3
#CERTIFIED NURSE MIDWIFE	341	1.6	1.7	276	2.2	2.1	65	0.7	1.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1767	8.1	8.1	757	5.9	5.7	1010	11.3	11.7
6. OUT OF WEDLOCK	6299	28.9	26.2	1311	10.2	8.3	4988	55.7	53.1
7. OCCURRENCE									
TOTAL	21410	21.9	22.8	12549	19.0	19.9	8861	28.0	29.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	374	17.0	17.6	162	12.5	13.4	212	23.4	23.8
9. FETAL DEATHS	209	9.5	9.5	88	6.8	7.4	121	13.3	12.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	201	96.2	96.6	85	96.6	96.6	116	95.9	96.5
PHYSICIAN NOT IN HOSPITAL	4	1.9	1.1	1	1.1	0.2	3	2.5	1.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.3	0	0.0	0.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	87	41.6	39.5	13	14.8	14.0	74	61.2	62.1
10. NEONATAL (UNDER 28 DAYS)	165	7.6	8.2	74	5.8	6.0	91	10.2	11.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	93	4.3	4.2	29	2.3	2.9	64	7.2	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	258	11.9	12.3	103	8.0	8.8	155	17.3	17.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	12716	9.3	9.0	8256	9.0	8.7	4460	9.9	9.4
MALES	6751	10.1	9.9	4303	9.5	9.4	2448	11.6	11.0
FEMALES	5965	8.5	8.1	3953	8.6	8.1	2012	8.4	8.0
14. AGE									
00-04 YEARS	313	3.2	3.2	128	2.1	2.3	185	4.9	4.4
05-14 YEARS	70	0.4	0.3	31	0.3	0.3	39	0.5	0.4
15-24 YEARS	236	1.0	1.0	125	0.8	0.9	111	1.3	1.1
25-34 YEARS	349	1.5	1.5	167	1.1	1.1	182	2.4	2.2
35-44 YEARS	525	2.8	2.6	249	1.9	1.9	276	4.9	4.5
45-54 YEARS	821	6.2	6.3	447	4.6	5.0	374	10.6	9.7
55-64 YEARS	1771	14.4	15.5	1115	12.5	13.6	656	19.2	20.2
65 AND OVER	8631	53.5	52.3	5994	52.4	50.9	2637	56.4	55.6
15. PLACE OF DEATH									
HOSPITAL	8259	64.9	64.4	5259	63.7	63.8	3000	67.3	65.5
OTHER INSTITUTION	1859	14.6	15.3	1283	15.5	16.1	576	12.9	13.8
HOME OR NON-INSTITUTION	2598	20.4	20.3	1714	20.8	20.1	884	19.8	20.7
16. OCCURRENCE									
TOTAL	12018	20.7	20.8	7799	17.8	17.8	4219	29.8	30.3
OTHER EVENTS									
17. MARRIAGES	12392	9.1	9.2						
18. DIVORCES AND ANNULMENTS	6569	4.8	4.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

Health Service Areas

AREA TABLES

NORTH CAROLINA HEALTH SERVICE AREAS


PIEDMONT
II
CAPITAL
IV
WESTERN
I
EASTERN
IV
SOUTHERN
PIEDMONT
III
CARDINAL HEALTH
AGENCY
V
SURRY
STOKES
ROCKINGHAM
CASWELL
PERSON
GRANVILLE
VANCE
WARREN
NORTHAMPTON
HALIFAX
HERTFORD
GATES
CURRITUCK
CAMDEN
PASQUOTANK
PERQUIMANS
CHOWAN
BERTIE
ASHE
ALLEGHANY
WATAUGA
WILKES
YADKIN
FORSYTH
GUILFORD
ALAMANCE
ORANGE
DURHAM
FRANKLIN
NASH
EDGECOMBE
MARTIN
WASHINGTON
TYRRELL
DARE
AVERY
MITCHELL
YANCEY
MADISON
CALDWELL
ALEXANDER
BURKE
IREDELL
DAVIE
DAVIDSON
RANDOLPH
CHATHAM
WAKE
WILSON
PITT
BEAUFORT
HYDE
MCDOWELL
BUNCOMBE
HAYWOOD
SWAIN
GRAHAM
CHEROKEE
CLAY
MACON
JACKSON
TRANSYLVANIA
HENDERSON
POLK
RUTHERFORD
CLEVELAND
CATAWBA
LINCOLN
GASTON
ROWAN
CABARRUS
STANLY
MECKLENBURG
UNION
ANSON
RICHMOND
MONTGOMERY
MOORE
LEE
HARNETT
JOHNSTON
WAYNE
GREENE
LENOIR
CRAVEN
PAMLICO
JONES
CARTERET
ONSLOW
DUPLIN
SAMPSON
CUMBERLAND
HOKE
SCOTLAND
ROBESON
BLADEN
PENDER
NEW HANOVER
COLUMBUS
BRUNSWICK

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

H.S.A. I - WESTERN

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1095625	16.9	17.0	1011339	20.6	20.8	84286	5.4	5.5
MALES	527008	48.1	48.2	487435	48.2	48.3	39573	47.0	47.4
FEMALES	568617	51.9	51.8	523904	51.8	51.7	44713	53.0	52.6
2. NATURAL INCREASE	3163	2.9	2.9	2236	2.2	2.4	927	11.0	8.6
LIVE BIRTHS									
3. TOTAL	13856	12.6	12.2	12093	12.0	11.7	1763	20.9	17.8
MALES	7081	6.5	6.3	6166	6.1	6.0	915	10.9	9.2
FEMALES	6775	6.2	5.9	5927	5.9	5.7	848	10.1	8.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	13657	98.6	98.1	11906	98.5	98.0	1751	99.3	99.2
PHYSICIAN NOT IN HOSPITAL	21	0.2	0.2	19	0.2	0.2	2	0.1	0.1
#CERTIFIED NURSE MIDWIFE	132	1.0	1.3	127	1.1	1.4	5	0.3	0.4
PERMITTED MIDWIFE	7	0.1	0.1	7	0.1	0.1	0	0.0	0.0
5. PREMATURE BIRTHS	967	7.0	7.1	763	6.3	6.5	204	11.6	11.7
6. OUT OF WEDLOCK	2968	21.4	18.2	1893	15.7	13.0	1075	61.0	58.0
7. OCCURRENCE									
TOTAL	13546	13.8	14.0	11835	17.9	18.1	1711	5.4	5.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	224	16.0	15.8	180	14.8	14.6	44	24.6	24.8
9. FETAL DEATHS	116	8.3	8.7	90	7.4	8.2	26	14.5	12.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	113	97.4	96.5	87	96.7	96.3	26	100.0	97.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.9	0	0.0	0.8	0	0.0	1.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.7	0	0.0	0.8	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	44	37.9	28.5	23	25.6	21.4	21	80.8	64.9
10. NEONATAL (UNDER 28 DAYS)	108	7.8	7.1	90	7.4	6.4	18	10.2	12.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	62	4.5	3.7	48	4.0	3.4	14	8.0	6.4
12. INFANT DEATHS (UNDER 1 YEAR)	170	12.3	10.8	138	11.4	9.8	32	18.2	19.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	10693	9.8	9.3	9857	9.7	9.3	836	9.9	9.2
MALES	5671	10.8	10.3	5229	10.7	10.3	442	11.2	10.4
FEMALES	5022	8.8	8.3	4628	8.8	8.3	394	8.8	8.1
14. AGE									
00-04 YEARS	201	3.0	2.5	164	2.7	2.3	37	5.6	5.0
05-14 YEARS	43	0.3	0.3	41	0.3	0.2	2	0.1	0.3
15-24 YEARS	145	0.8	0.9	128	0.8	0.9	17	1.1	1.0
25-34 YEARS	225	1.3	1.2	191	1.2	1.2	34	2.5	2.0
35-44 YEARS	332	2.1	2.1	280	1.9	1.9	52	4.6	4.2
45-54 YEARS	573	4.7	5.1	515	4.5	4.9	58	8.0	9.1
55-64 YEARS	1366	12.6	12.6	1242	12.2	12.1	124	20.0	19.4
65 AND OVER	7808	49.9	48.3	7296	49.3	47.9	512	58.8	53.9
15. PLACE OF DEATH									
HOSPITAL	6334	59.2	61.3	5820	59.0	61.1	514	61.5	64.6
OTHER INSTITUTION	2094	19.6	19.4	1950	19.8	19.6	144	17.2	17.0
HOME OR NON-INSTITUTION	2265	21.2	19.3	2087	21.2	19.4	178	21.3	18.4
16. OCCURRENCE									
TOTAL	10513	18.1	18.0	9671	22.1	21.8	842	5.9	5.9
OTHER EVENTS									
17. MARRIAGES	9063	8.3	8.3						
18. DIVORCES AND ANNULMENTS	5348	4.9	4.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

H.S.A. II - PIEDMONT

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1201583	18.5	18.6	960033	19.5	19.6	241550	15.4	15.3
MALES	570703	47.5	47.6	459570	47.9	47.9	111133	46.0	46.4
FEMALES	630880	52.5	52.4	500463	52.1	52.1	130417	54.0	53.6
2. NATURAL INCREASE	5992	5.0	4.4	3480	3.6	3.4	2512	10.4	8.6
LIVE BIRTHS									
3. TOTAL	16738	13.9	13.1	12125	12.6	12.2	4613	19.1	17.0
MALES	8550	7.1	6.7	6182	6.4	6.3	2368	9.8	8.6
FEMALES	8188	6.8	6.4	5943	6.2	5.9	2245	9.3	8.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	16487	98.5	98.5	11915	98.3	98.3	4572	99.1	99.2
PHYSICIAN NOT IN HOSPITAL	16	0.1	0.1	5	0.0	0.1	11	0.2	0.2
#CERTIFIED NURSE MIDWIFE	198	1.2	1.1	179	1.5	1.4	19	0.4	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1397	8.3	8.1	807	6.7	6.4	590	12.8	12.8
6. OUT OF WEDLOCK	4187	25.0	22.6	1423	11.7	9.9	2764	59.9	58.3
7. OCCURRENCE									
TOTAL	16390	16.7	16.6	12014	18.1	18.0	4376	13.8	13.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	262	15.5	15.0	139	11.4	12.1	123	26.3	23.0
9. FETAL DEATHS	142	8.4	7.2	75	6.1	6.1	67	14.3	10.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	137	96.5	96.2	75	100.0	97.1	62	92.5	94.8
PHYSICIAN NOT IN HOSPITAL	3	2.1	1.6	0	0.0	1.4	3	4.5	1.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.4	0	0.0	0.3	0	0.0	0.5
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	60	42.3	35.6	11	14.7	17.2	49	73.1	66.2
10. NEONATAL (UNDER 28 DAYS)	120	7.2	7.9	64	5.3	6.1	56	12.1	12.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	80	4.8	4.1	45	3.7	3.5	35	7.7	5.7
12. INFANT DEATHS (UNDER 1 YEAR)	200	11.9	11.9	109	9.0	9.6	91	19.7	18.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	10746	8.9	8.7	8645	9.0	8.8	2101	8.7	8.4
MALES	5666	9.9	9.7	4513	9.8	9.7	1153	10.4	9.8
FEMALES	5080	8.1	7.8	4132	8.3	7.9	948	7.3	7.2
14. AGE									
00-04 YEARS	236	3.2	3.1	135	2.5	2.5	101	5.7	4.8
05-14 YEARS	45	0.3	0.3	30	0.3	0.3	15	0.4	0.2
15-24 YEARS	167	0.9	1.0	123	0.9	1.0	44	0.9	0.9
25-34 YEARS	274	1.3	1.2	183	1.1	1.1	91	2.1	1.9
35-44 YEARS	385	2.2	2.1	251	1.7	1.7	134	4.0	4.0
45-54 YEARS	638	4.8	5.1	460	4.1	4.4	178	8.5	8.8
55-64 YEARS	1534	13.0	13.1	1223	12.1	12.0	311	18.5	19.8
65 AND OVER	7467	49.5	49.4	6240	48.1	48.3	1227	57.6	55.5
15. PLACE OF DEATH									
HOSPITAL	6690	62.3	63.1	5267	60.9	61.9	1423	67.7	68.2
OTHER INSTITUTION	1870	17.4	17.0	1626	18.8	18.2	244	11.6	12.0
HOME OR NON-INSTITUTION	2186	20.3	19.9	1752	20.3	19.9	434	20.7	19.8
16. OCCURRENCE									
TOTAL	10821	18.7	18.8	8749	20.0	20.2	2072	14.6	14.6
OTHER EVENTS									
17. MARRIAGES	10709	8.9	9.0						
18. DIVORCES AND ANNULMENTS	6405	5.3	5.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

H.S.A. III - SOUTHERN PIEDMONT

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	1127918	17.4	17.2	894177	18.2	18.0	233741	14.9	14.6
MALES	539358	47.8	47.9	431410	48.2	48.3	107948	46.2	46.6
FEMALES	588560	52.2	52.1	462767	51.8	51.7	125793	53.8	53.4
2. NATURAL INCREASE	8158	7.2	6.5	4996	5.6	5.1	3162	13.5	12.1
LIVE BIRTHS									
3. TOTAL	17751	15.7	14.8	12675	14.2	13.4	5076	21.7	20.0
MALES	9005	8.0	7.6	6456	7.2	6.9	2549	10.9	10.1
FEMALES	8746	7.8	7.2	6219	7.0	6.5	2527	10.8	9.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	17611	99.2	99.1	12564	99.1	99.1	5047	99.4	99.3
PHYSICIAN NOT IN HOSPITAL	28	0.2	0.1	12	0.1	0.1	16	0.3	0.2
#CERTIFIED NURSE MIDWIFE	86	0.5	0.6	79	0.6	0.7	7	0.1	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1523	8.6	8.0	809	6.4	6.1	714	14.1	12.7
6. OUT OF WEDLOCK	4675	26.3	24.1	1535	12.1	10.1	3140	61.9	59.8
7. OCCURRENCE									
TOTAL	18613	19.0	18.4	13373	20.2	19.5	5240	16.5	16.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	300	16.8	16.9	174	13.6	13.9	126	24.5	24.6
9. FETAL DEATHS	149	8.3	9.0	81	6.3	7.5	68	13.2	12.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	143	96.0	97.2	80	98.8	98.4	63	92.6	95.5
PHYSICIAN NOT IN HOSPITAL	3	2.0	1.7	0	0.0	0.5	3	4.4	3.4
#CERTIFIED NURSE MIDWIFE	0	0.0	0.3	0	0.0	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	63	42.3	33.1	15	18.5	14.4	48	70.6	61.4
10. NEONATAL (UNDER 28 DAYS)	151	8.5	8.0	93	7.3	6.4	58	11.4	12.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	81	4.6	4.1	42	3.3	3.4	39	7.8	6.0
12. INFANT DEATHS (UNDER 1 YEAR)	232	13.1	12.1	135	10.7	9.8	97	19.1	18.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	9593	8.5	8.2	7679	8.6	8.3	1914	8.2	8.0
MALES	5013	9.3	9.1	3978	9.2	9.0	1035	9.6	9.5
FEMALES	4580	7.8	7.4	3701	8.0	7.6	879	7.0	6.7
14. AGE									
00-04 YEARS	266	3.6	3.1	153	2.8	2.5	113	5.8	4.9
05-14 YEARS	37	0.2	0.3	23	0.2	0.3	14	0.3	0.3
15-24 YEARS	170	1.0	1.0	131	1.0	1.0	39	0.9	0.9
25-34 YEARS	273	1.4	1.3	183	1.2	1.1	90	2.1	2.1
35-44 YEARS	386	2.3	2.1	238	1.7	1.7	148	4.5	4.3
45-54 YEARS	661	5.5	5.6	489	4.8	4.7	172	9.2	10.4
55-64 YEARS	1385	13.2	13.2	1071	11.8	12.[illegible]	314	21.9	20.7
65 AND OVER	6415	48.2	48.2	5391	47.0	47.2	1024	55.8	54.7
15. PLACE OF DEATH									
HOSPITAL	5817	60.6	62.6	4600	59.9	62.1	1217	63.6	64.6
OTHER INSTITUTION	1717	17.9	16.3	1456	19.0	17.3	261	13.6	12.5
HOME OR NON-INSTITUTION	2059	21.5	21.1	1623	21.1	20.6	436	22.8	22.9
16. OCCURRENCE									
TOTAL	9856	17.0	16.8	7900	18.0	17.7	1956	13.8	13.9
OTHER EVENTS									
17. MARRIAGES	7766	6.9	6.9						
18. DIVORCES AND ANNULMENTS	5738	5.1	5.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

H.S.A. IV - CAPITAL

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	969547	14.9	14.6	696358	14.2	13.8	273189	17.4	17.1
MALES	464999	48.0	48.1	338015	48.5	48.6	126984	46.5	46.9
FEMALES	504548	52.0	51.9	358343	51.5	51.4	146205	53.5	53.1
2. NATURAL INCREASE	7143	7.4	6.6	4303	6.2	5.6	2840	10.4	9.2
LIVE BIRTHS									
3. TOTAL	14675	15.1	14.4	9358	13.4	13.0	5317	19.5	17.7
MALES	7423	7.7	7.3	4737	6.8	6.7	2686	9.8	8.9
FEMALES	7252	7.5	7.1	4621	6.6	6.4	2631	9.6	8.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	14115	96.2	96.2	8861	94.7	94.7	5254	98.8	99.0
PHYSICIAN NOT IN HOSPITAL	25	0.2	0.1	10	0.1	0.1	15	0.3	0.2
#CERTIFIED NURSE MIDWIFE	504	3.4	3.4	462	4.9	4.9	42	0.8	0.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1101	7.5	7.9	478	5.1	5.5	623	11.7	12.3
6. OUT OF WEDLOCK	3706	25.3	23.4	763	8.2	7.2	2943	55.4	52.8
7. OCCURRENCE									
TOTAL	16084	16.4	15.8	10136	15.3	14.7	5948	18.8	18.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	242	16.3	17.6	106	11.3	13.1	136	25.2	25.6
9. FETAL DEATHS	130	8.8	8.9	56	5.9	6.5	74	13.7	13.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	127	97.7	97.3	54	96.4	97.2	73	98.6	97.5
PHYSICIAN NOT IN HOSPITAL	1	0.8	0.8	0	0.0	0.7	1	1.4	1.0
#CERTIFIED NURSE MIDWIFE	2	1.5	0.8	2	3.6	1.8	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	57	43.8	36.6	9	16.1	13.8	48	64.9	57.0
10. NEONATAL (UNDER 28 DAYS)	112	7.6	8.8	50	5.3	6.7	62	11.7	12.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	57	3.9	4.1	26	2.8	2.9	31	5.9	6.4
12. INFANT DEATHS (UNDER 1 YEAR)	169	11.5	12.9	76	8.1	9.6	93	17.5	18.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	7532	7.8	7.7	5055	7.3	7.4	2477	9.1	8.5
MALES	3965	8.5	8.5	2614	7.7	7.9	1351	10.6	10.1
FEMALES	3567	7.1	7.0	2441	6.8	6.9	1126	7.7	7.2
14. AGE									
00-04 YEARS	208	3.4	3.3	97	2.4	2.5	111	5.4	4.9
05-14 YEARS	28	0.2	0.3	17	0.2	0.2	11	0.3	0.3
15-24 YEARS	140	0.8	0.8	85	0.7	0.7	55	1.0	1.0
25-34 YEARS	202	1.1	1.1	102	0.8	0.9	100	2.0	1.8
35-44 YEARS	329	2.4	2.3	157	1.5	1.7	172	4.7	4.2
45-54 YEARS	482	4.9	5.4	271	3.6	4.3	211	9.3	9.2
55-64 YEARS	1062	13.1	13.4	683	11.1	11.7	379	19.7	18.7
65 AND OVER	5081	49.1	49.6	3643	47.2	48.4	1438	54.9	52.8
15. PLACE OF DEATH									
HOSPITAL	4512	59.9	60.4	2934	58.0	58.9	1578	63.7	63.6
OTHER INSTITUTION	1354	18.0	18.5	1021	20.2	20.5	333	13.4	14.1
HOME OR NON-INSTITUTION	1666	22.1	21.2	1100	21.8	20.6	566	22.9	22.3
16. OCCURRENCE									
TOTAL	8921	15.4	15.6	6012	13.7	14.1	2909	20.5	20.1
OTHER EVENTS									
17. MARRIAGES	7749	8.0	8.1						
18. DIVORCES AND ANNULMENTS	4703	4.9	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

H.S.A. V - CARDINAL

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	973021	15.0	15.1	627238	12.8	12.8	345783	22.0	22.2
MALES	473727	48.7	48.9	309754	49.4	49.5	163973	47.4	48.0
FEMALES	499294	51.3	51.1	317484	50.6	50.5	181810	52.6	52.0
2. NATURAL INCREASE	7532	7.7	7.7	3416	5.4	5.7	4116	11.9	11.3
LIVE BIRTHS									
3. TOTAL	16162	16.6	16.1	9080	14.5	14.3	7082	20.5	19.3
MALES	8274	8.5	8.2	4685	7.5	7.3	3589	10.4	9.8
FEMALES	7888	8.1	7.9	4395	7.0	7.0	3493	10.1	9.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	15873	98.2	98.4	8974	98.8	98.8	6899	97.4	97.8
PHYSICIAN NOT IN HOSPITAL	27	0.2	0.1	7	0.1	0.1	20	0.3	0.2
#CERTIFIED NURSE MIDWIFE	229	1.4	1.3	80	0.9	1.0	149	2.1	1.7
PERMITTED MIDWIFE	1	0.0	0.0	0	0.0	0.0	1	0.0	0.0
5. PREMATURE BIRTHS	1350	8.4	8.2	518	5.7	5.9	832	11.7	11.1
6. OUT OF WEDLOCK	4791	29.6	26.5	1036	11.4	9.8	3755	53.0	48.6
7. OCCURRENCE									
TOTAL	15344	15.7	16.0	8586	13.0	13.2	6758	21.3	22.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	301	18.5	17.1	118	12.9	13.7	183	25.5	21.7
9. FETAL DEATHS	146	9.0	9.1	63	6.9	7.2	83	11.6	11.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	143	97.9	97.5	62	98.4	98.4	81	97.6	96.7
PHYSICIAN NOT IN HOSPITAL	1	0.7	0.7	0	0.0	0.0	1	1.2	1.3
#CERTIFIED NURSE MIDWIFE	1	0.7	0.3	0	0.0	0.3	1	1.2	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	55	37.7	38.8	9	14.3	15.8	46	55.4	57.3
10. NEONATAL (UNDER 28 DAYS)	155	9.6	8.1	55	6.1	6.5	100	14.1	10.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	69	4.3	4.4	30	3.3	3.3	39	5.6	5.7
12. INFANT DEATHS (UNDER 1 YEAR)	224	13.9	12.4	85	9.4	9.9	139	19.6	15.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	8630	8.9	8.4	5664	9.0	8.6	2966	8.6	8.0
MALES	4712	9.9	9.4	3058	9.9	9.5	1654	10.1	9.2
FEMALES	3918	7.8	7.5	2606	8.2	7.8	1312	7.2	6.8
14. AGE									
00-04 YEARS	269	3.7	3.2	98	2.3	2.5	171	5.7	4.2
05-14 YEARS	41	0.3	0.3	12	0.1	0.3	29	0.5	0.4
15-24 YEARS	188	1.1	1.1	113	1.1	1.2	75	1.1	1.1
25-34 YEARS	256	1.6	1.5	113	1.1	1.1	143	2.4	2.2
35-44 YEARS	364	2.7	2.7	190	2.1	2.0	174	3.9	4.2
45-54 YEARS	602	6.4	6.3	369	5.5	5.5	233	8.8	8.4
55-64 YEARS	1310	15.7	15.6	853	14.1	14.0	457	20.2	19.7
65 AND OVER	5600	53.0	51.7	3916	51.5	50.6	1684	56.9	54.3
15. PLACE OF DEATH									
HOSPITAL	5513	63.9	64.9	3565	62.9	63.9	1948	65.7	66.7
OTHER INSTITUTION	1405	16.3	16.2	950	16.8	17.1	455	15.3	14.3
HOME OR NON-INSTITUTION	1712	19.8	19.0	1149	20.3	18.9	563	19.0	19.1
16. OCCURRENCE									
TOTAL	8097	14.0	13.9	5319	12.1	12.1	2778	19.6	19.6
OTHER EVENTS									
17. MARRIAGES	6058	6.2	6.2						
18. DIVORCES AND ANNULMENTS	4943	5.1	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

H.S.A. VI - EASTERN CAROLINA

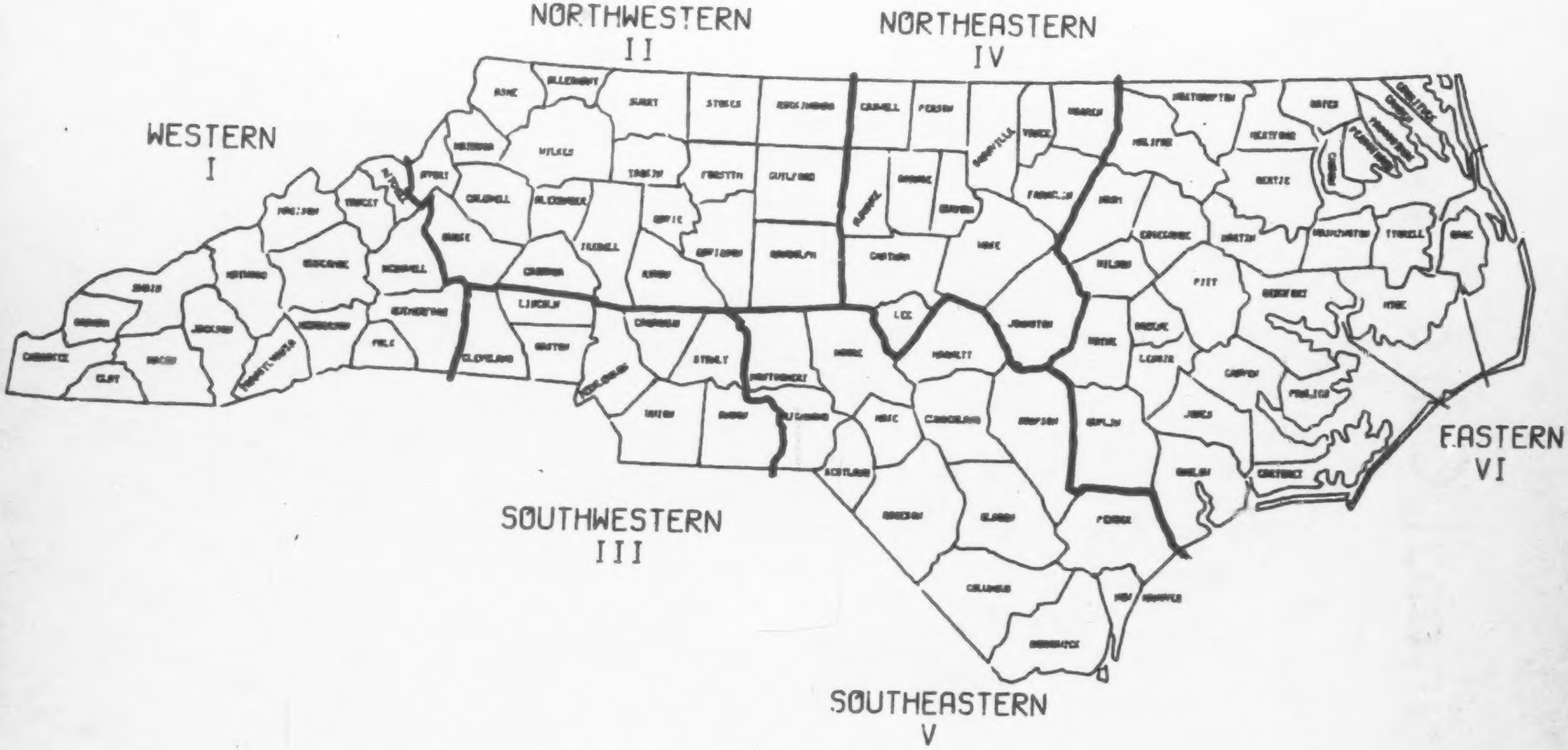
	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	1119744	17.3	17.4	729218	14.8	14.9	390526	24.9	25.3
MALES	547290	48.9	49.1	363837	49.9	50.0	183453	47.0	47.5
FEMALES	572454	51.1	50.9	365381	50.1	50.0	207073	53.0	52.5
2. NATURAL INCREASE	7942	7.1	7.3	3998	5.5	6.2	3944	10.1	9.4
LIVE BIRTHS									
3. TOTAL	18378	16.4	16.3	10606	14.5	14.9	7772	19.9	18.8
MALES	9375	8.4	8.3	5408	7.4	7.6	3967	10.2	9.5
FEMALES	9003	8.0	8.0	5198	7.1	7.3	3805	9.7	9.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	17997	97.9	98.0	10291	97.0	97.4	7706	99.2	99.0
PHYSICIAN NOT IN HOSPITAL	61	0.3	0.3	39	0.4	0.3	22	0.3	0.2
#CERTIFIED NURSE MIDWIFE	299	1.6	1.6	259	2.4	2.2	40	0.5	0.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1484	8.1	8.1	628	5.9	5.7	856	11.0	11.6
6. OUT OF WEDLOCK	5293	28.8	26.1	1035	9.8	7.8	4258	54.8	52.4
7. OCCURRENCE									
TOTAL	17890	18.3	19.1	10256	15.5	16.4	7634	24.1	25.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	338	18.2	17.9	145	13.6	13.7	193	24.5	24.0
9. FETAL DEATHS	189	10.2	9.5	78	7.3	7.5	111	14.1	12.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	181	95.8	96.4	75	96.2	96.7	106	95.5	96.1
PHYSICIAN NOT IN HOSPITAL	4	2.1	1.3	1	1.3	0.2	3	2.7	2.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.2	0	0.0	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	77	40.7	38.5	11	14.1	12.0	66	59.5	61.5
10. NEONATAL (UNDER 28 DAYS)	149	8.1	8.5	67	6.3	6.2	82	10.6	11.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	83	4.6	4.2	25	2.4	2.9	58	7.5	6.2
12. INFANT DEATHS (UNDER 1 YEAR)	232	12.6	12.7	92	8.7	9.1	140	18.0	17.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	10436	9.3	9.0	6608	9.1	8.7	3828	9.8	9.4
MALES	5519	10.1	9.9	3419	9.4	9.3	2100	11.4	10.9
FEMALES	4917	8.6	8.1	3189	8.7	8.2	1728	8.3	8.0
14. AGE									
00-04 YEARS	281	3.4	3.3	114	2.3	2.5	167	5.1	4.5
05-14 YEARS	57	0.4	0.4	29	0.3	0.3	28	0.4	0.4
15-24 YEARS	195	0.9	1.0	99	0.8	0.9	96	1.3	1.1
25-34 YEARS	295	1.6	1.5	138	1.2	1.1	157	2.4	2.1
35-44 YEARS	437	2.9	2.7	198	2.0	1.9	239	4.9	4.4
45-54 YEARS	670	6.3	6.4	341	4.5	4.9	329	10.9	9.9
55-64 YEARS	1424	14.3	15.5	868	12.3	13.5	556	18.9	20.3
65 AND OVER	7077	54.1	52.7	4821	53.0	51.2	2256	56.8	56.0
15. PLACE OF DEATH									
HOSPITAL	6803	65.2	64.3	4245	64.2	63.8	2558	66.8	65.1
OTHER INSTITUTION	1551	14.9	15.4	1036	15.7	16.2	515	13.5	14.1
HOME OR NON-INSTITUTION	2082	20.0	20.3	1327	20.1	20.0	755	19.7	20.7
16. OCCURRENCE									
TOTAL	9797	16.9	17.0	6193	14.1	14.1	3604	25.5	25.9
OTHER EVENTS									
17. MARRIAGES	10573	9.4	9.6						
18. DIVORCES AND ANNULMENTS	5259	4.7	4.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

Perinatal Care Regions

REGION TABLES

NORTH CAROLINA PERINATAL CARE REGIONS


NORTHWESTERN
II
NORTHEASTERN
IV
WESTERN
I
SOUTHWESTERN
III
EASTERN
VI
SOUTHEASTERN
V

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

P.C. REGION I - WESTERN

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	570178	8.8	8.9	531075	10.8	10.9	39103	2.5	2.5
MALES	272434	47.8	47.9	254125	47.9	47.9	18309	46.8	47.4
FEMALES	297744	52.2	52.1	276950	52.1	52.1	20794	53.2	52.6
2. NATURAL INCREASE	900	1.6	1.7	554	1.0	1.2	346	8.8	7.8
LIVE BIRTHS									
3. TOTAL	7029	12.3	11.9	6262	11.8	11.4	767	19.6	17.7
MALES	3614	6.3	6.1	3214	6.1	5.8	400	10.2	9.2
FEMALES	3415	6.0	5.8	3048	5.7	5.6	367	9.4	8.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	6852	97.5	97.0	6096	97.3	96.8	756	98.6	98.6
PHYSICIAN NOT IN HOSPITAL	14	0.2	0.3	12	0.2	0.3	2	0.3	0.2
#CERTIFIED NURSE MIDWIFE	127	1.8	2.1	123	2.0	2.3	4	0.5	0.7
PERMITTED MIDWIFE	5	0.1	0.1	5	0.1	0.1	0	0.0	0.0
5. PREMATURE BIRTHS	443	6.3	6.6	361	5.8	6.2	82	10.7	10.6
6. OUT OF WEDLOCK	1405	20.0	17.2	944	15.1	12.8	461	60.1	54.9
7. OCCURRENCE									
TOTAL	6789	6.9	7.0	6018	9.1	9.1	771	2.4	2.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	106	15.0	15.9	75	11.9	14.6	31	39.4	27.1
9. FETAL DEATHS	56	7.9	9.1	37	5.9	8.3	19	24.2	15.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	55	98.2	96.4	36	97.3	96.4	19	100.0	96.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.7	0	0.0	0.4	0	0.0	1.8
#CERTIFIED NURSE MIDWIFE	0	0.0	1.3	0	0.0	1.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	28	50.0	31.9	13	35.1	25.0	15	78.9	62.5
10. NEONATAL (UNDER 28 DAYS)	50	7.1	6.9	38	6.1	6.4	12	15.6	11.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	26	3.7	3.1	21	3.4	3.0	5	6.6	3.8
12. INFANT DEATHS (UNDER 1 YEAR)	76	10.8	10.0	59	9.4	9.4	17	22.2	15.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	6129	10.7	10.2	5708	10.7	10.2	421	10.8	9.9
MALES	3190	11.7	11.3	2957	11.6	11.4	233	12.7	11.1
FEMALES	2939	9.9	9.1	2751	9.9	9.2	188	9.0	8.8
14. AGE									
00-04 YEARS	88	2.6	2.3	70	2.3	2.1	18	5.9	4.1
05-14 YEARS	27	0.4	0.3	25	0.4	0.3	2	0.3	0.5
15-24 YEARS	75	0.9	1.0	70	0.9	1.0	5	0.7	0.8
25-34 YEARS	118	1.4	1.3	100	1.2	1.2	18	2.9	2.1
35-44 YEARS	167	2.1	2.1	144	1.9	1.9	23	4.5	4.3
45-54 YEARS	294	4.7	5.0	271	4.6	4.8	23	7.1	8.3
55-64 YEARS	743	12.6	12.4	683	12.2	12.0	60	20.1	19.9
65 AND OVER	4617	49.6	48.0	4345	49.1	47.7	272	60.0	54.5
15. PLACE OF DEATH									
HOSPITAL	3416	55.7	58.2	3176	55.6	58.0	240	57.0	61.4
OTHER INSTITUTION	1378	22.5	21.8	1289	22.6	21.9	89	21.1	19.9
HOME OR NON-INSTITUTION	1335	21.8	20.0	1243	21.8	20.1	92	21.9	18.7
16. OCCURRENCE									
TOTAL	6175	10.6	10.6	5739	13.1	13.0	436	3.1	3.1
OTHER EVENTS									
17. MARRIAGES	4872	8.5	8.6						
18. DIVORCES AND ANNULMENTS	2743	4.8	4.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

P.C. REGION II - NORTHWESTERN

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1709926	26.4	26.5	1438888	29.3	29.4	271038	17.3	17.2
MALES	818456	47.9	48.0	693021	48.2	48.2	125435	46.3	46.7
FEMALES	891470	52.1	52.0	745867	51.8	51.8	145603	53.7	53.3
2. NATURAL INCREASE	7977	4.7	4.3	5110	3.6	3.5	2867	10.6	8.8
LIVE BIRTHS									
3. TOTAL	23160	13.5	13.0	17894	12.4	12.1	5266	19.4	17.3
MALES	11792	6.9	6.5	9105	6.3	6.2	2687	9.9	8.7
FEMALES	11368	6.6	6.3	8789	6.1	5.9	2579	9.5	8.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	22905	98.9	98.8	17679	98.8	98.7	5226	99.2	99.2
PHYSICIAN NOT IN HOSPITAL	21	0.1	0.1	11	0.1	0.1	10	0.2	0.2
#CERTIFIED NURSE MIDWIFE	193	0.8	0.9	174	1.0	1.0	19	0.4	0.3
PERMITTED MIDWIFE	2	0.0	0.0	2	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1849	8.0	7.8	1194	6.7	6.5	655	12.4	12.8
6. OUT OF WEDLOCK	5583	24.1	21.2	2375	13.3	10.9	3208	60.9	59.1
7. OCCURRENCE									
TOTAL	23079	23.6	23.5	17892	27.0	27.0	5187	16.4	15.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	376	16.1	15.2	250	13.9	13.0	126	23.6	23.3
9. FETAL DEATHS	194	8.3	7.6	127	7.0	6.8	67	12.6	10.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	186	95.9	96.5	125	98.4	96.9	61	91.0	95.5
PHYSICIAN NOT IN HOSPITAL	4	2.1	1.6	0	0.0	1.4	4	6.0	2.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.2	0	0.0	0.2	0	0.0	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	71	36.6	31.9	24	18.9	17.2	47	70.1	66.9
10. NEONATAL (UNDER 28 DAYS)	182	7.9	7.7	123	6.9	6.3	59	11.2	13.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	119	5.2	4.2	77	4.3	3.7	42	8.1	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	301	13.0	11.9	200	11.2	10.0	101	19.2	19.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	15183	8.9	8.6	12784	8.9	8.6	2399	8.9	8.5
MALES	8075	9.9	9.6	6769	9.8	9.6	1306	10.4	9.8
FEMALES	7108	8.0	7.7	6015	8.1	7.7	1093	7.5	7.4
14. AGE									
00-04 YEARS	346	3.3	2.9	237	2.8	2.5	109	5.3	4.8
05-14 YEARS	50	0.2	0.2	42	0.2	0.2	8	0.2	0.2
15-24 YEARS	245	0.9	1.0	191	0.9	1.0	54	1.0	1.0
25-34 YEARS	383	1.3	1.2	281	1.2	1.1	102	2.1	1.9
35-44 YEARS	541	2.1	2.1	383	1.8	1.8	158	4.3	4.1
45-54 YEARS	910	4.8	5.2	713	4.3	4.6	197	8.6	9.2
55-64 YEARS	2098	12.7	12.9	1731	11.8	12.0	367	19.7	19.9
65 AND OVER	10610	49.6	49.1	9206	48.5	48.2	1404	58.8	56.0
15. PLACE OF DEATH									
HOSPITAL	9505	62.6	64.0	7894	61.7	63.2	1611	67.2	68.4
OTHER INSTITUTION	2645	17.4	17.2	2342	18.3	18.0	303	12.6	13.0
HOME OR NON-INSTITUTION	3033	20.0	18.8	2548	19.9	18.9	485	20.2	18.6
16. OCCURRENCE									
TOTAL	15279	26.3	26.4	12816	29.2	29.3	2463	17.4	17.3
OTHER EVENTS									
17. MARRIAGES	14891	8.7	8.8						
18. DIVORCES AND ANNULMENTS	8700	5.1	5.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

P.C. REGION III - SOUTHWESTERN

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1043165	16.1	15.9	812155	16.5	16.4	231010	14.7	14.5
MALES	497735	47.7	47.8	391481	48.2	48.3	106254	46.0	46.4
FEMALES	545430	52.3	52.2	420674	51.8	51.7	124756	54.0	53.6
2. NATURAL INCREASE	7981	7.7	6.8	4764	5.9	5.3	3217	13.9	12.1
LIVE BIRTHS									
3. TOTAL	16767	16.1	14.9	11661	14.4	13.5	5106	22.1	20.1
MALES	8544	8.2	7.7	5946	7.3	6.9	2598	11.2	10.2
FEMALES	8223	7.9	7.3	5715	7.0	6.5	2508	10.9	9.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	16633	99.2	99.1	11555	99.1	99.0	5078	99.5	99.4
PHYSICIAN NOT IN HOSPITAL	26	0.2	0.1	12	0.1	0.1	14	0.3	0.2
#CERTIFIED NURSE MIDWIFE	80	0.5	0.6	73	0.6	0.7	7	0.1	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1484	8.9	8.2	760	6.5	6.2	724	14.2	12.7
6. OUT OF WEDLOCK	4546	27.1	25.1	1409	12.1	10.3	3137	61.4	59.9
7. OCCURRENCE									
TOTAL	17819	18.2	17.6	12543	18.9	18.3	5276	16.7	16.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	286	16.9	17.4	160	13.6	14.3	126	24.3	24.7
9. FETAL DEATHS	146	8.6	9.2	77	6.6	7.7	69	13.3	12.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	141	96.6	97.1	76	98.7	98.1	65	94.2	95.8
PHYSICIAN NOT IN HOSPITAL	2	1.4	1.4	0	0.0	0.5	2	2.9	2.8
#CERTIFIED NURSE MIDWIFE	0	0.0	0.3	0	0.0	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	61	41.8	32.8	11	14.3	13.9	50	72.5	60.0
10. NEONATAL (UNDER 28 DAYS)	140	8.3	8.3	83	7.1	6.6	57	11.2	12.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	74	4.5	4.1	32	2.8	3.1	42	8.3	6.6
12. INFANT DEATHS (UNDER 1 YEAR)	214	12.8	12.4	115	9.9	9.7	99	19.4	18.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	8786	8.4	8.1	6897	8.5	8.2	1889	8.2	7.9
MALES	4570	9.2	8.9	3562	9.1	8.8	1008	9.5	9.4
FEMALES	4216	7.7	7.3	3335	7.9	7.5	881	7.1	6.7
14. AGE									
00-04 YEARS	254	3.6	3.2	131	2.6	2.4	123	6.3	5.2
05-14 YEARS	36	0.3	0.3	22	0.2	0.3	14	0.3	0.3
15-24 YEARS	157	1.0	1.0	116	1.0	1.0	41	0.9	1.0
25-34 YEARS	260	1.4	1.3	171	1.2	1.0	89	2.1	2.0
35-44 YEARS	372	2.4	2.2	222	1.8	1.7	150	4.6	4.3
45-54 YEARS	611	5.5	5.7	441	4.8	4.7	170	9.3	10.5
55-64 YEARS	1287	13.5	13.4	978	12.1	12.1	309	21.9	21.0
65 AND OVER	5809	48.8	48.5	4816	47.7	47.4	993	55.1	54.1
15. PLACE OF DEATH									
HOSPITAL	5428	61.8	63.4	4188	60.7	62.6	1240	65.6	66.4
OTHER INSTITUTION	1488	16.9	15.5	1255	18.2	16.6	233	12.3	11.4
HOME OR NON-INSTITUTION	1870	21.3	21.1	1454	21.1	20.7	416	22.0	22.2
16. OCCURRENCE									
TOTAL	8983	15.5	15.2	7099	16.2	15.8	1884	13.3	13.3
OTHER EVENTS									
17. MARRIAGES	6800	6.5	6.4						
18. DIVORCES AND ANNULMENTS	5467	5.2	5.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

P.C. REGION IV - NOHTHEASTERN

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1980	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	1097643	16.9	16.6	793926	16.1	15.8	303717	19.4	19.1
MALES	525553	47.9	48.0	384446	48.4	48.5	141107	46.5	46.9
FEMALES	572090	52.1	52.0	409480	51.6	51.5	162610	53.5	53.1
2. NATURAL INCREASE	7689	7.0	6.3	4559	5.7	5.2	3130	10.3	9.0
LIVE BIRTHS									
3. TOTAL	16463	15.0	14.2	10575	13.3	12.9	5888	19.4	17.5
MALES	8320	7.6	7.2	5351	5.7	6.6	2969	9.8	8.8
FEMALES	8143	7.4	7.0	5224	5.6	6.3	2919	9.6	8.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	15876	96.4	96.5	10056	95.1	95.2	5820	98.8	99.0
PHYSICIAN NOT IN HOSPITAL	29	0.2	0.1	11	0.1	0.1	18	0.3	0.2
#CERTIFIED NURSE MIDWIFE	520	3.2	3.1	477	4.5	4.5	43	0.7	0.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1249	7.6	8.0	548	5.2	5.6	701	11.9	12.3
6. OUT OF WEDLOCK	4166	25.3	23.4	903	8.5	7.5	3263	55.4	53.0
7. OCCURRENCE									
TOTAL	17245	17.6	17.0	10989	16.6	16.0	6256	19.8	19.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	268	16.1	17.1	115	10.8	12.8	153	25.6	25.1
9. FETAL DEATHS	146	8.8	8.8	61	5.7	6.4	85	14.2	13.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	143	97.9	97.3	59	96.7	97.5	84	98.8	97.1
PHYSICIAN NOT IN HOSPITAL	1	0.7	0.9	0	0.0	0.6	1	1.2	1.2
#CERTIFIED NURSE MIDWIFE	2	1.4	0.8	2	3.3	1.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	68	46.6	37.9	10	16.4	14.6	58	68.2	59.3
10. NEONATAL (UNDER 28 DAYS)	122	7.4	8.4	54	5.1	6.4	68	11.5	12.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	65	4.0	4.1	31	2.9	3.0	34	5.8	6.2
12. INFANT DEATHS (UNDER 1 YEAR)	187	11.4	12.5	85	8.0	9.4	102	17.3	18.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	8774	8.0	7.9	6016	7.6	7.7	2758	9.1	8.5
MALES	4637	8.8	8.8	3128	8.1	8.2	1509	10.7	10.2
FEMALES	4137	7.2	7.1	2888	7.1	7.1	1249	7.7	7.1
14. AGE									
00-04 YEARS	236	3.4	3.3	113	2.4	2.5	123	5.4	4.9
05-14 YEARS	41	0.3	0.3	22	0.2	0.3	19	0.4	0.4
15-24 YEARS	154	0.8	0.8	95	0.7	0.7	59	1.0	0.9
25-34 YEARS	227	1.1	1.2	117	0.8	0.9	110	2.0	1.8
35-44 YEARS	366	2.3	2.3	184	1.6	1.7	182	4.4	4.1
45-54 YEARS	550	4.9	5.3	314	3.6	4.2	236	9.2	9.0
55-64 YEARS	1254	13.2	13.3	840	11.5	11.7	414	19.0	18.5
65 AND OVER	5946	48.7	49.2	4331	46.8	48.2	1615	54.7	52.4
15. PLACE OF DEATH									
HOSPITAL	5236	59.7	60.1	3491	58.0	58.8	1745	63.3	63.3
OTHER INSTITUTION	1554	17.7	18.0	1184	19.7	19.7	370	13.4	13.9
HOME OR NON-INSTITUTION	1984	22.6	21.9	1341	22.3	21.5	643	23.3	22.8
16. OCCURRENCE									
TOTAL	9885	17.0	17.2	6787	15.5	15.9	3098	21.9	21.4
OTHER EVENTS									
17. MARRIAGES	8846	8.1	8.2						
18. DIVORCES AND ANNULMENTS	5365	4.9	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

P.C. REGION V - SOUTHEASTERN

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	946782	14.6	14.7	613101	12.5	12.5	333681	21.3	21.4
MALES	461617	48.8	49.0	303111	49.4	49.5	158506	47.5	48.0
FEMALES	485165	51.2	51.0	309990	50.6	50.5	175175	52.5	52.0
2. NATURAL INCREASE	7441	7.9	7.8	3444	5.6	5.8	3997	12.0	11.4
LIVE BIRTHS									
3. TOTAL	15763	16.6	16.2	8939	14.6	14.4	6824	20.5	19.3
MALES	8063	8.5	8.2	4610	7.5	7.4	3453	10.3	9.8
FEMALES	7700	8.1	7.9	4329	7.1	7.0	3371	10.1	9.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	15477	98.2	98.3	8834	98.8	98.8	6643	97.3	97.8
PHYSICIAN NOT IN HOSPITAL	27	0.2	0.1	7	0.1	0.1	20	0.3	0.2
#CERTIFIED NURSE MIDWIFE	229	1.5	1.3	80	0.9	1.0	149	2.2	1.8
PERMITTED MIDWIFE	1	0.0	0.0	0	0.0	0.0	1	0.0	0.0
5. PREMATURE BIRTHS	1313	8.3	8.1	512	5.7	5.9	801	11.7	11.1
6. OUT OF WEDLOCK	4627	29.4	26.2	1019	11.4	9.8	3608	52.9	48.3
7. OCCURRENCE									
TOTAL	15045	15.4	15.7	8502	12.8	13.1	6543	20.7	21.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	293	18.4	17.0	117	13.0	13.6	176	25.5	21.6
9. FETAL DEATHS	141	8.9	9.0	63	7.0	7.1	78	11.3	11.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	138	97.9	97.5	62	98.4	98.4	76	97.4	96.8
PHYSICIAN NOT IN HOSPITAL	1	0.7	0.7	0	0.0	0.0	1	1.3	1.3
#CERTIFIED NURSE MIDWIFE	1	0.7	0.3	0	0.0	0.3	1	1.3	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	51	36.2	37.9	9	14.3	16.1	42	53.8	56.1
10. NEONATAL (UNDER 28 DAYS)	152	9.6	8.1	54	6.0	6.6	98	14.4	10.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	65	4.2	4.3	30	3.4	3.4	35	5.2	5.5
12. INFANT DEATHS (UNDER 1 YEAR)	217	13.8	12.3	84	9.4	9.9	133	19.5	15.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	8322	8.8	8.3	5495	9.0	8.6	2827	8.5	7.9
MALES	4555	9.9	9.3	2976	9.8	9.4	1579	10.0	9.1
FEMALES	3767	7.8	7.4	2519	8.1	7.8	1248	7.1	6.8
14. AGE									
00-04 YEARS	256	3.6	3.2	96	2.3	2.5	160	5.5	4.2
05-14 YEARS	40	0.3	0.3	12	0.1	0.3	28	0.5	0.4
15-24 YEARS	179	1.1	1.1	108	1.1	1.2	71	1.1	1.0
25-34 YEARS	242	1.5	1.5	103	1.0	1.1	139	2.4	2.2
35-44 YEARS	350	2.7	2.7	183	2.1	2.0	167	3.9	4.1
45-54 YEARS	591	6.5	6.3	365	5.6	5.5	226	8.8	8.3
55-64 YEARS	1275	15.8	15.6	840	14.2	14.1	435	20.0	19.7
65 AND OVER	5389	52.9	51.8	3788	51.5	50.7	1601	56.7	54.4
15. PLACE OF DEATH									
HOSPITAL	5281	63.5	64.3	3437	62.5	63.5	1844	65.2	65.9
OTHER INSTITUTION	1375	16.5	16.4	933	17.0	17.4	442	15.6	14.5
HOME OR NON-INSTITUTION	1666	20.0	19.3	1125	20.5	19.1	541	19.1	19.6
16. OCCURRENCE									
TOTAL	7886	13.6	13.6	5210	11.9	11.8	2676	18.9	18.9
OTHER EVENTS									
17. MARRIAGES	5936	6.3	6.2						
18. DIVORCES AND ANNULMENTS	4862	5.1	4.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

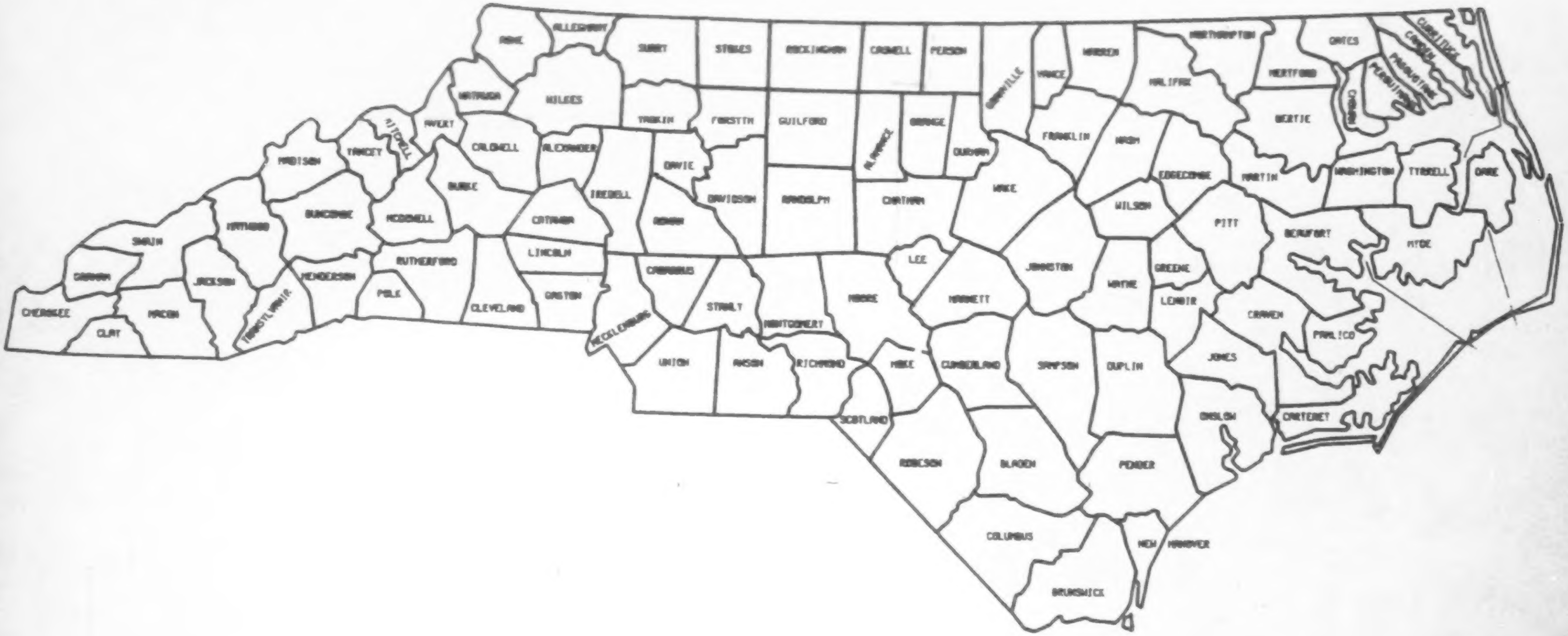
P.C. REGION VI - EASTERN

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	84-88	NUMBER 1988	RATE* 1988	84-88	NUMBER 1988	RATE* 1988	84-88
POPULATION									
1. TOTAL	1119744	17.3	17.4	729218	14.8	14.9	390526	24.9	25.3
MALES	547290	48.9	49.1	363837	49.9	50.0	183453	47.0	47.5
FEMALES	572454	51.1	50.9	365381	50.1	50.0	207073	53.0	52.5
2. NATURAL INCREASE	7942	7.1	7.3	3998	5.5	6.2	3944	10.1	9.4
LIVE BIRTHS									
3. TOTAL	18378	16.4	16.3	10606	14.5	14.9	7772	19.9	18.8
MALES	9375	8.4	8.3	5408	7.4	7.6	3967	10.2	9.5
FEMALES	9003	8.0	8.0	5198	7.1	7.3	3805	9.7	9.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	17997	97.9	98.0	10291	97.0	97.4	7706	99.2	99.0
PHYSICIAN NOT IN HOSPITAL	61	0.3	0.3	39	0.4	0.3	22	0.3	0.2
#CERTIFIED NURSE MIDWIFE	299	1.6	1.6	259	2.4	2.2	40	0.5	0.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	1484	8.1	8.1	628	5.9	5.7	856	11.0	11.6
6. OUT OF WEDLOCK	5293	28.8	26.1	1035	9.8	7.8	4258	54.8	52.4
7. OCCURRENCE									
TOTAL	17890	18.3	19.1	10256	15.5	16.4	7634	24.1	25.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	338	18.2	17.9	145	13.6	13.7	193	24.5	24.0
9. FETAL DEATHS	189	10.2	9.5	78	7.3	7.5	111	14.1	12.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	181	95.8	96.4	75	96.2	96.7	106	95.5	96.1
PHYSICIAN NOT IN HOSPITAL	4	2.1	1.3	1	1.3	0.2	3	2.7	2.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.2	0	0.0	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	77	40.7	38.5	11	14.1	12.0	66	59.5	61.5
10. NEONATAL (UNDER 28 DAYS)	149	8.1	8.5	67	6.3	6.2	82	10.6	11.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	83	4.6	4.2	25	2.4	2.9	58	7.5	6.2
12. INFANT DEATHS (UNDER 1 YEAR)	232	12.6	12.7	92	8.7	9.1	140	18.0	17.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	10436	9.3	9.0	6608	9.1	8.7	3828	9.8	9.4
MALES	5519	10.1	9.9	3419	9.4	9.3	2100	11.4	10.9
FEMALES	4917	8.6	8.1	3189	8.7	8.2	1728	8.3	8.0
14. AGE									
00-04 YEARS	281	3.4	3.3	114	2.3	2.5	167	5.1	4.5
05-14 YEARS	57	0.4	0.4	29	0.3	0.3	28	0.4	0.4
15-24 YEARS	195	0.9	1.0	99	0.8	0.9	96	1.3	1.1
25-34 YEARS	295	1.6	1.5	138	1.2	1.1	157	2.4	2.1
35-44 YEARS	437	2.9	2.7	198	2.0	1.9	239	4.9	4.4
45-54 YEARS	670	6.3	6.4	341	4.5	4.9	329	10.9	9.9
55-64 YEARS	1424	14.3	15.5	868	12.3	13.5	556	18.9	20.3
65 AND OVER	7077	54.1	52.7	4821	53.0	51.2	2256	56.8	56.0
15. PLACE OF DEATH									
HOSPITAL	6803	65.2	64.3	4245	64.2	63.8	2558	66.8	65.1
OTHER INSTITUTION	1551	14.9	15.4	1036	15.7	16.2	515	13.5	14.1
HOME OR NON-INSTITUTION	2082	20.0	20.3	1327	20.1	20.0	755	19.7	20.7
16. OCCURRENCE									
TOTAL	9797	16.9	17.0	6193	14.1	14.1	3604	25.5	25.9
OTHER EVENTS									
17. MARRIAGES	10573	9.4	9.6						
18. DIVORCES AND ANNULMENTS	5259	4.7	4.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

COUNTY
TABLES

NORTH CAROLINA


ASHE
ALLEGHANY
SURRY
STOKES
ROCKINGHAM
CASWELL
PERSON
GRANVILLE
VANCE
WARREN
NORTHAMPTON
GATES
CURRITUCK
CAMDEN
PASQUOTANK
PERQUIMANS
CHOWAN
HERTFORD
HALIFAX
WATAUGA
WILKES
AVERY
MITCHELL
YADKIN
FORSYTH
GUILFORD
ALAMANCE
ORANGE
DURHAM
FRANKLIN
NASH
BERTIE
MADISON
YANCEY
CALDWELL
ALEXANDER
DAVIE
BURKE
IREDELL
EDGECOMBE
MARTIN
WASHINGTON
TYRRELL
DARE
DAVIDSON
RANDOLPH
CHATHAM
WAKE
BUNCOMBE
MCDOWELL
HAYWOOD
ROWAN
CATAWBA
WILSON
PITT
SWAIN
BEAUFORT
HYDE
LINCOLN
GRAHAM
RUTHERFORD
CABARRUS
LEE
JOHNSTON
GREENE
JACKSON
HENDERSON
HARNETT
WAYNE
CHEROKEE
GASTON
STANLY
MOORE
LENOIR
POLK
CLEVELAND
CRAVEN
MACON
CLAY
TRANSYLVANIA
MECKLENBURG
MONTGOMERY
PAMLICO
UNION
ANSON
RICHMOND
HOKE
CUMBERLAND
SAMPSON
DUPLIN
JONES
ONSLOW
CARTERET
SCOTLAND
ROBESON
BLADEN
PENDER
COLUMBUS
NEW HANOVER
BRUNSWICK

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ALAMANCE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	105903	1.6	1.6	84103	1.7	1.7	21800	1.4	1.4
MALES	49688	46.9	47.1	39708	47.2	47.3	9980	45.8	46.3
FEMALES	56215	53.1	52.9	44395	52.8	52.7	11820	54.2	53.7
2. NATURAL INCREASE	459	4.3	3.6	215	2.6	2.3	244	11.2	8.6
LIVE BIRTHS									
3. TOTAL	1516	14.3	13.1	1058	12.6	11.9	458	21.0	17.4
MALES	746	7.0	6.7	519	6.2	6.2	227	10.4	8.6
FEMALES	770	7.3	6.4	539	6.4	5.8	231	10.6	8.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1498	98.8	99.1	1043	98.6	98.9	455	99.3	99.6
PHYSICIAN NOT IN HOSPITAL	3	0.2	0.1	0	0.0	0.0	3	0.7	0.2
#CERTIFIED NURSE MIDWIFE	11	0.7	0.6	11	1.0	0.9	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	121	8.0	8.2	58	5.5	6.3	63	13.8	13.3
6. OUT OF WEDLOCK	393	25.9	23.0	121	11.4	10.1	272	59.4	57.1
7. OCCURRENCE									
TOTAL	1157	1.2	1.2	850	1.3	1.3	307	1.0	0.9
TO RESIDENTS	1038	89.7	87.9	756	88.9	87.1	282	91.9	90.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	20	13.1	13.6	8	7.5	10.3	12	25.8	22.3
9. FETAL DEATHS	13	8.5	8.2	5	4.7	6.1	8	17.2	13.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	13	100.0	96.4	5	100.0	100.0	8	100.0	92.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.8	0	0.0	0.0	0	0.0	3.8
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	9	69.2	51.8	1	20.0	23.3	8	100.0	84.6
10. NEONATAL (UNDER 28 DAYS)	7	4.6	5.5	3	2.8	4.3	4	8.7	8.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	8	5.3	4.3	5	4.7	4.1	3	6.6	4.9
12. INFANT DEATHS (UNDER 1 YEAR)	15	9.9	9.7	8	7.6	8.4	7	15.3	13.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1057	10.0	9.5	843	10.0	9.6	214	9.8	8.9
MALES	583	11.7	10.7	463	11.7	10.6	120	12.0	11.0
FEMALES	474	8.4	8.4	380	8.6	8.8	94	8.0	7.1
14. AGE									
00-04 YEARS	23	3.9	3.1	14	3.2	2.5	9	6.2	4.8
05-14 YEARS	10	0.8	0.4	4	0.4	0.3	6	1.8	0.6
15-24 YEARS	11	0.7	0.9	8	0.7	0.9	3	0.8	0.7
25-34 YEARS	23	1.4	1.2	15	1.2	1.0	8	2.2	1.8
35-44 YEARS	28	1.8	2.1	20	1.6	1.7	8	2.6	3.6
45-54 YEARS	62	5.1	4.8	38	3.8	4.0	24	11.5	8.2
55-64 YEARS	166	14.1	12.9	141	14.2	11.8	25	14.0	19.0
65 AND OVER	734	46.1	47.0	603	44.5	46.6	131	55.2	49.8
15. PLACE OF DEATH									
HOSPITAL	624	59.0	58.3	490	58.1	57.8	134	62.6	60.4
OTHER INSTITUTION	163	15.4	15.0	141	16.7	15.8	22	10.3	11.4
HOME OR NON-INSTITUTION	270	25.5	26.8	212	25.1	26.4	58	27.1	28.2
16. OCCURRENCE									
TOTAL	883	1.5	1.5	721	1.6	1.7	162	1.1	1.1
TO RESIDENTS	793	89.8	90.2	649	90.0	90.2	144	88.9	90.2
OTHER EVENTS									
17. MARRIAGES	947	8.9	9.4						
18. DIVORCES AND ANNULMENTS	605	5.7	5.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ALEXANDER COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	27563	0.4	0.4	25861	0.5	0.5	1702	0.1	0.1
MALES	13667	49.6	49.6	12798	49.5	49.5	869	51.1	51.3
FEMALES	13896	50.4	50.4	13063	50.5	50.5	833	48.9	48.7
2. NATURAL INCREASE	116	4.2	5.5	105	4.1	5.1	11	6.5	10.2
LIVE BIRTHS									
3. TOTAL	320	11.6	12.5	295	11.4	12.2	25	14.7	16.8
MALES	152	5.5	6.3	137	5.3	6.1	15	8.8	9.3
FEMALES	168	6.1	6.2	158	6.1	6.1	10	5.9	7.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	317	99.1	96.7	292	99.0	96.7	25	100.0	97.3
PHYSICIAN NOT IN HOSPITAL	1	0.3	0.1	1	0.3	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	3.0	0	0.0	3.0	0	0.0	2.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	27	8.4	6.5	25	8.5	6.2	2	8.0	9.5
6. OUT OF WEDLOCK	54	16.9	13.9	42	14.2	10.7	12	48.0	47.6
7. OCCURRENCE									
TOTAL	3	0.0	0.0	3	0.0	0.0	0	0.0	0.0
TO RESIDENTS	3	100.0	95.7	3	100.0	94.9	0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	21.5	17.1	7	23.3	18.0	0	0.0	6.8
9. FETAL DEATHS	5	15.4	8.2	5	16.7	9.0	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	100.0	100.0	5	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	1	20.0	14.3	1	20.0	14.3	0		
10. NEONATAL (UNDER 28 DAYS)	2	6.2	8.9	2	6.8	9.1	0	0.0	6.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	3.1	2.4	1	3.4	2.6	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	3	9.4	11.3	3	10.2	11.7	0	0.0	6.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	204	7.4	7.1	190	7.3	7.1	14	8.2	6.6
MALES	106	7.8	7.6	98	7.7	7.7	8	9.2	5.6
FEMALES	98	7.1	6.5	92	7.0	6.5	6	7.2	7.7
14. AGE									
00-04 YEARS	3	1.6	2.4	3	1.7	2.5	0	0.0	1.4
05-14 YEARS	2	0.5	0.1	2	0.5	0.1	0	0.0	0.7
15-24 YEARS	2	0.5	1.2	2	0.5	1.2	0	0.0	0.7
25-34 YEARS	9	1.9	1.4	8	1.8	1.3	1	3.6	2.1
35-44 YEARS	8	1.9	1.6	6	1.5	1.4	2	7.8	4.0
45-54 YEARS	11	3.4	4.5	9	3.0	4.3	2	12.0	7.6
55-64 YEARS	25	10.3	12.2	25	10.8	12.2	0	0.0	10.9
65 AND OVER	144	52.4	47.4	135	52.6	48.0	9	49.7	38.7
15. PLACE OF DEATH									
HOSPITAL	138	67.6	74.1	131	68.9	74.2	7	50.0	72.4
OTHER INSTITUTION	25	12.3	13.6	23	12.1	13.8	2	14.3	10.3
HOME OR NON-INSTITUTION	41	20.1	12.3	36	18.9	12.0	5	35.7	17.2
16. OCCURRENCE									
TOTAL	141	0.2	0.2	130	0.3	0.3	11	0.1	0.1
TO RESIDENTS	125	88.7	83.8	114	87.7	83.4	11	100.0	89.7
OTHER EVENTS									
17. MARRIAGES	205	7.4	7.2						
18. DIVORCES AND ANNULMENTS	106	3.8	3.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ALLEGHANY COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	9819	0.2	0.2	9639	0.2	0.2	180	0.0	0.0
MALES	4738	48.3	48.2	4657	48.3	48.3	81	45.0	44.9
FEMALES	5081	51.7	51.8	4982	51.7	51.7	99	55.0	55.1
2. NATURAL INCREASE	-10	-1.0	-1.3	-10	-1.0	-1.3	0	0.0	-5.2
LIVE BIRTHS									
3. TOTAL	87	8.9	9.2	86	8.9	9.2	1	5.6	9.4
MALES	42	4.3	4.4	42	4.4	4.4	0	0.0	5.2
FEMALES	45	4.6	4.8	44	4.6	4.8	1	5.6	4.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	87	100.0	100.0	86	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	3	3.4	5.5	3	3.5	5.7	0	0.0	0.0
6. OUT OF WEDLOCK	14	16.1	10.4	13	15.1	9.5	1	100.0	55.6
7. OCCURRENCE									
TOTAL	1	0.0	0.1	1	0.0	0.1	0	0.0	0.0
TO RESIDENTS	1	100.0	65.3	1	100.0	66.1	0		37.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	22.7	19.7	2	23.0	20.1	0	0.0	0.0
9. FETAL DEATHS	1	11.4	11.0	1	11.5	11.2	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	1	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	0.0	0	0.0	0.0	0		
10. NEONATAL (UNDER 28 DAYS)	1	11.5	8.9	1	11.6	9.0	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	11.6	4.5	1	11.8	4.6	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	2	23.0	13.3	2	23.3	13.6	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	97	9.9	10.6	96	10.0	10.5	1	5.6	14.6
MALES	63	13.3	12.7	63	13.5	12.6	0	0.0	16.2
FEMALES	34	6.7	8.6	33	6.6	8.5	1	10.1	13.2
14. AGE									
00-04 YEARS	2	3.5	2.4	2	3.5	2.5	0	0.0	0.0
05-14 YEARS	0	0.0	0.2	0	0.0	0.2	0	0.0	0.0
15-24 YEARS	1	0.7	1.2	1	0.8	1.2	0	0.0	0.0
25-34 YEARS	1	0.7	1.0	1	0.7	1.0	0	0.0	0.0
35-44 YEARS	2	1.5	1.8	2	1.5	1.9	0	0.0	0.0
45-54 YEARS	4	3.6	3.3	4	3.7	3.2	0	0.0	11.5
55-64 YEARS	14	12.4	13.4	14	12.5	13.1	0	0.0	39.0
65 AND OVER	73	45.8	49.8	72	46.3	49.8	1	27.0	51.8
15. PLACE OF DEATH									
HOSPITAL	70	72.2	69.0	70	72.9	69.1	0	0.0	64.3
OTHER INSTITUTION	7	7.2	9.1	6	6.3	8.8	1	100.0	21.4
HOME OR NON-INSTITUTION	20	20.6	21.9	20	20.8	22.1	0	0.0	14.3
16. OCCURRENCE									
TOTAL	110	0.2	0.2	108	0.2	0.2	2	0.0	0.0
TO RESIDENTS	81	73.6	73.4	80	74.1	73.8	1	50.0	63.6
OTHER EVENTS									
17. MARRIAGES	139	14.2	18.3						
18. DIVORCES AND ANNULMENTS	37	3.8	4.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ANSON COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	26239	0.4	0.4	14137	0.3	0.3	12102	0.8	0.8
MALES	12110	46.2	46.5	6643	47.0	47.1	5467	45.2	45.7
FEMALES	14129	53.8	53.5	7494	53.0	52.9	6635	54.8	54.3
2. NATURAL INCREASE	91	3.5	3.3	-28	-2.0	-1.3	119	9.8	8.5
LIVE BIRTHS									
3. TOTAL	399	15.2	13.7	141	10.0	9.6	258	21.3	18.2
MALES	211	8.0	7.1	75	5.3	5.0	136	11.2	9.4
FEMALES	188	7.2	6.6	66	4.7	4.6	122	10.1	8.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	396	99.2	99.6	140	99.3	99.7	256	99.2	99.5
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.0	0	0.0	0.4
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	37	9.3	10.4	6	4.3	5.5	31	12.0	13.3
6. OUT OF WEDLOCK	164	41.1	40.5	17	12.1	9.4	147	57.0	59.2
7. OCCURRENCE									
TOTAL	299	0.3	0.3	84	0.1	0.1	215	0.7	0.6
TO RESIDENTS	287	96.0	96.8	76	90.5	92.2	211	98.1	98.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	8	19.8	21.4	1	7.1	14.7	7	26.6	25.4
9. FETAL DEATHS	5	12.4	15.4	0	0.0	8.8	5	19.0	19.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	100.0	96.4	0		100.0	5	100.0	95.5
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	4	80.0	60.7	0		0.0	4	80.0	77.3
10. NEONATAL (UNDER 28 DAYS)	3	7.5	6.1	1	7.1	5.9	2	7.8	6.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	10.1	9.0	0	0.0	1.5	4	15.6	13.5
12. INFANT DEATHS (UNDER 1 YEAR)	7	17.5	15.1	1	7.1	7.4	6	23.3	19.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	308	11.7	10.4	169	12.0	11.0	139	11.5	9.7
MALES	157	13.0	11.9	82	12.3	12.1	75	13.7	11.7
FEMALES	151	10.7	9.1	87	11.6	10.0	64	9.6	8.0
14. AGE									
00-04 YEARS	13	6.7	3.7	2	2.4	1.7	11	10.1	5.3
05-14 YEARS	1	0.2	0.4	0	0.0	0.2	1	0.4	0.5
15-24 YEARS	9	2.2	1.7	5	2.7	1.6	4	1.9	1.8
25-34 YEARS	14	3.5	1.7	10	4.9	1.7	4	2.1	1.8
35-44 YEARS	14	4.0	3.5	7	3.5	2.2	7	4.5	5.3
45-54 YEARS	11	4.6	7.2	4	2.6	5.1	7	8.5	11.0
55-64 YEARS	35	14.4	14.6	13	8.4	10.8	22	24.8	21.1
65 AND OVER	211	55.3	49.7	128	52.4	49.2	83	60.4	50.5
15. PLACE OF DEATH									
HOSPITAL	232	75.3	79.7	128	75.7	77.1	104	74.8	83.0
OTHER INSTITUTION	30	9.7	9.5	17	10.1	9.8	13	9.4	9.1
HOME OR NON-INSTITUTION	46	14.9	10.9	24	14.2	13.2	22	15.8	7.9
16. OCCURRENCE									
TOTAL	211	0.4	0.3	109	0.2	0.2	102	0.7	0.6
TO RESIDENTS	194	91.9	94.5	97	89.0	93.0	97	95.1	96.4
OTHER EVENTS									
17. MARRIAGES	122	4.6	4.3						
18. DIVORCES AND ANNULMENTS	81	3.1	3.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ASHE COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	23488	0.4	0.4	23269	0.5	0.5	219	0.0	0.0
MALES	11370	48.4	48.5	11271	48.4	48.5	99	45.2	46.0
FEMALES	12118	51.6	51.5	11998	51.6	51.5	120	54.8	54.0
2. NATURAL INCREASE	-33	-1.4	-0.3	-32	-1.4	-0.3	-1	-4.6	-1.8
LIVE BIRTHS									
3. TOTAL	220	9.4	9.7	217	9.3	9.7	3	13.7	10.6
MALES	99	4.2	4.9	98	4.2	4.9	1	4.6	6.2
FEMALES	121	5.2	4.8	119	5.1	4.8	2	9.1	4.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	219	99.5	98.6	216	99.5	98.6	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.2	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.5	0	0.0	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
5. PREMATURE BIRTHS	14	6.4	6.9	14	6.5	6.6	0	0.0	33.3
6. OUT OF WEDLOCK	32	14.5	12.5	31	14.3	12.2	1	33.3	33.3
7. OCCURRENCE									
TOTAL	41	0.0	0.1	41	0.1	0.1	0	0.0	0.0
TO RESIDENTS	32	78.0	88.4	32	78.0	88.6	0		66.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	26.9	18.4	6	27.3	15.9	0	0.0	250.0
9. FETAL DEATHS	3	13.5	9.6	3	13.6	9.7	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	90.9	3	100.0	90.9	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	9.1	0	0.0	9.1	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	9.1	0	0.0	9.1	0		
10. NEONATAL (UNDER 28 DAYS)	3	13.6	8.8	3	13.8	6.3	0	0.0	250.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	9.2	3.6	2	9.3	3.6	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	5	22.7	12.4	5	23.0	9.8	0	0.0	250.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	253	10.8	10.0	249	10.7	9.9	4	18.3	12.4
MALES	136	12.0	11.6	136	12.1	11.6	0	0.0	13.4
FEMALES	117	9.7	8.4	113	9.4	8.4	4	33.3	11.4
14. AGE									
00-04 YEARS	5	3.5	2.2	5	3.5	1.8	0	0.0	52.6
05-14 YEARS	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
15-24 YEARS	3	0.9	0.7	3	0.9	0.7	0	0.0	5.8
25-34 YEARS	4	1.1	1.0	4	1.1	1.0	0	0.0	0.0
35-44 YEARS	9	2.7	2.1	9	2.7	2.0	0	0.0	6.8
45-54 YEARS	11	4.0	4.1	11	4.1	4.2	0	0.0	0.0
55-64 YEARS	20	8.3	10.6	20	8.4	10.7	0	0.0	6.2
65 AND OVER	201	53.9	49.8	197	53.3	49.7	4	129.0	51.3
15. PLACE OF DEATH									
HOSPITAL	171	67.6	69.0	167	67.1	68.8	4	100.0	85.7
OTHER INSTITUTION	27	10.7	9.1	27	10.8	9.1	0	0.0	7.1
HOME OR NON-INSTITUTION	55	21.7	21.8	55	22.1	22.0	0	0.0	7.1
16. OCCURRENCE									
TOTAL	181	0.3	0.3	180	0.4	0.4	1	0.0	0.0
TO RESIDENTS	171	94.5	93.5	170	94.4	93.6	1	100.0	83.3
OTHER EVENTS									
17. MARRIAGES	214	9.1	9.2						
18. DIVORCES AND ANNULMENTS	101	4.3	4.1						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

AVERY COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	15254	0.2	0.2	15049	0.3	0.3	205	0.0	0.0
MALES	7541	49.4	49.5	7409	49.2	49.3	132	64.4	65.3
FEMALES	7713	50.6	50.5	7640	50.8	50.7	73	35.6	34.7
2. NATURAL INCREASE	43	2.8	4.1	44	2.9	4.3	-1	-4.9	-10.8
LIVE BIRTHS									
3. TOTAL	199	13.0	12.7	197	13.1	12.8	2	9.8	2.9
MALES	112	7.3	6.4	110	7.3	6.5	2	9.8	2.9
FEMALES	87	5.7	6.3	87	5.8	6.4	0	0.0	0.0
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	196	98.5	98.5	194	98.5	98.5	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	2	1.0	0.4	2	1.0	0.4	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.4	0	0.0	0.4	0	0.0	0.0
PERMITTED MIDWIFE	1	0.5	0.3	1	0.5	0.3	0	0.0	0.0
5. PREMATURE BIRTHS	11	5.5	5.4	11	5.6	5.5	0	0.0	0.0
6. OUT OF WEDLOCK	34	17.1	13.5	34	17.3	13.5	0	0.0	0.0
7. OCCURRENCE									
TOTAL	128	0.1	0.2	128	0.2	0.3	0	0.0	0.0
TO RESIDENTS	78	60.9	65.3	78	60.9	65.3	0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	19.7	10.3	4	19.9	10.4	0	0.0	0.0
9. FETAL DEATHS	4	19.7	10.3	4	19.9	10.4	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	50.0	70.0	2	50.0	70.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	2	50.0	20.0	2	50.0	20.0	0		
10. NEONATAL (UNDER 28 DAYS)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.1	0	0.0	3.1	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	3.1	0	0.0	3.1	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	156	10.2	8.6	153	10.2	8.6	3	14.6	13.7
MALES	79	10.5	9.3	77	10.4	9.2	2	15.2	13.5
FEMALES	77	10.0	8.0	76	9.9	8.0	1	13.7	14.1
14. AGE									
00-04 YEARS	0	0.0	1.1	0	0.0	1.1	0	0.0	0.0
05-14 YEARS	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
15-24 YEARS	2	0.7	0.5	2	0.7	0.5	0	0.0	0.0
25-34 YEARS	3	1.3	1.3	3	1.3	1.2	0	0.0	5.6
35-44 YEARS	4	1.8	1.4	4	1.8	1.4	0	0.0	0.0
45-54 YEARS	4	2.5	4.8	4	2.5	4.9	0	0.0	0.0
55-64 YEARS	16	11.4	12.9	15	10.8	12.3	1	76.9	72.5
65 AND OVER	127	67.2	52.4	125	66.5	51.9	2	200.0	125.0
15. PLACE OF DEATH									
HOSPITAL	107	68.6	69.0	105	68.6	69.1	2	66.7	64.3
OTHER INSTITUTION	30	19.2	17.8	29	19.0	17.7	1	33.3	21.4
HOME OR NON-INSTITUTION	19	12.2	13.2	19	12.4	13.2	0	0.0	14.3
16. OCCURRENCE									
TOTAL	174	0.3	0.3	170	0.4	0.4	4	0.0	0.0
TO RESIDENTS	119	68.4	65.5	118	69.4	65.9	1	25.0	47.4
OTHER EVENTS									
17. MARRIAGES	193	12.7	11.1						
18. DIVORCES AND ANNULMENTS	55	3.6	3.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BEAUFORT COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	42432	0.7	0.7	29595	0.6	0.6	12837	0.8	0.9
MALES	20019	47.2	47.3	14194	48.0	48.0	5825	45.4	45.9
FEMALES	22413	52.8	52.7	15401	52.0	52.0	7012	54.6	54.1
2. NATURAL INCREASE	81	1.9	2.1	-9	-0.3	0.4	90	7.0	5.7
LIVE BIRTHS									
3. TOTAL	591	13.9	13.0	336	11.4	11.2	255	19.9	17.1
MALES	291	6.9	6.7	154	5.2	5.7	137	10.7	9.0
FEMALES	300	7.1	6.3	182	6.1	5.5	118	9.2	8.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	588	99.5	99.2	333	99.1	98.9	255	100.0	99.6
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.2	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	2	0.3	0.4	2	0.6	0.5	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	54	9.1	8.9	21	6.3	5.6	33	12.9	13.6
6. OUT OF WEDLOCK	196	33.2	28.2	29	8.6	7.3	167	65.5	58.9
7. OCCURRENCE									
TOTAL	472	0.5	0.6	275	0.4	0.5	197	0.6	0.7
TO RESIDENTS	373	79.0	75.8	202	73.5	71.0	171	86.8	83.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	15	25.0	25.3	6	17.8	18.5	9	34.2	35.2
9. FETAL DEATHS	9	15.0	16.2	1	3.0	10.7	8	30.4	24.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	88.9	97.8	1	100.0	100.0	7	87.5	96.4
PHYSICIAN NOT IN HOSPITAL	1	11.1	2.2	0	0.0	0.0	1	12.5	3.6
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	55.6	50.0	0	0.0	22.2	5	62.5	67.9
10. NEONATAL (UNDER 28 DAYS)	6	10.2	9.3	5	14.9	7.8	1	3.9	11.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	6.8	4.3	1	3.0	2.4	3	11.8	7.1
12. INFANT DEATHS (UNDER 1 YEAR)	10	16.9	13.6	6	17.9	10.2	4	15.7	18.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	510	12.0	11.0	345	11.7	10.8	165	12.9	11.4
MALES	273	13.6	12.2	179	12.6	11.7	94	16.1	13.3
FEMALES	237	10.6	9.9	166	10.8	9.9	71	10.1	9.7
14. AGE									
00-04 YEARS	11	3.6	3.1	6	3.1	2.5	5	4.4	4.0
05-14 YEARS	1	0.2	0.4	0	0.0	0.4	1	0.4	0.5
15-24 YEARS	8	1.3	1.2	6	1.5	1.4	2	1.0	0.8
25-34 YEARS	14	2.1	1.7	11	2.4	1.3	3	1.5	2.5
35-44 YEARS	19	3.2	2.5	13	3.0	2.1	6	3.7	3.8
45-54 YEARS	28	6.3	6.3	17	5.0	5.4	11	10.9	9.3
55-64 YEARS	73	17.5	16.4	42	13.6	13.7	31	29.0	24.0
65 AND OVER	356	59.6	55.5	250	56.4	53.6	106	68.8	60.9
15. PLACE OF DEATH									
HOSPITAL	311	61.0	62.8	198	57.4	61.1	113	68.5	66.5
OTHER INSTITUTION	89	17.5	15.5	66	19.1	16.3	23	13.9	14.0
HOME OR NON-INSTITUTION	110	21.6	21.6	81	23.5	22.7	29	17.6	19.5
16. OCCURRENCE									
TOTAL	490	0.8	0.8	335	0.8	0.8	155	1.1	1.1
TO RESIDENTS	398	81.2	81.0	269	80.3	81.3	129	83.2	80.2
OTHER EVENTS									
17. MARRIAGES	438	10.3	9.8						
18. DIVORCES AND ANNULMENTS	199	4.7	4.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BERTIE COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	21038	0.3	0.3	8299	0.2	0.2	12739	0.8	0.8
MALES	9797	46.6	46.8	3994	48.1	48.1	5803	45.6	46.1
FEMALES	11241	53.4	53.2	4305	51.9	51.9	6936	54.4	53.9
2. NATURAL INCREASE	67	3.2	3.3	-36	-4.3	-3.7	103	8.1	7.9
LIVE BIRTHS									
3. TOTAL	316	15.0	14.9	83	10.0	9.7	233	18.3	18.3
MALES	164	7.8	7.6	44	5.3	5.1	120	9.4	9.2
FEMALES	152	7.2	7.3	39	4.7	4.6	113	8.9	9.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	316	100.0	99.4	83	100.0	99.5	233	100.0	99.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.5	0	0.0	0.5	0	0.0	0.5
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	26	8.2	10.1	3	3.6	4.7	23	9.9	12.0
6. OUT OF WEDLOCK	141	44.6	40.7	9	10.8	5.2	132	56.7	53.0
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0		100.0	0		100.0	0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	18.6	23.1	2	23.5	12.3	4	16.9	26.7
9. FETAL DEATHS	6	18.6	15.0	2	23.5	7.4	4	16.9	17.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	95.8	2	100.0	100.0	4	100.0	95.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	4.2	0	0.0	0.0	0	0.0	4.8
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	33.3	37.5	0	0.0	0.0	2	50.0	42.9
10. NEONATAL (UNDER 28 DAYS)	0	0.0	8.2	0	0.0	4.9	0	0.0	9.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	3.2	5.7	0	0.0	0.0	1	4.3	7.7
12. INFANT DEATHS (UNDER 1 YEAR)	1	3.2	13.9	0	0.0	4.9	1	4.3	17.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	249	11.8	11.6	119	14.3	13.4	130	10.2	10.4
MALES	129	13.2	14.0	69	17.3	15.6	60	10.3	13.0
FEMALES	120	10.7	9.4	50	11.6	11.4	70	10.1	8.2
14. AGE									
00-04 YEARS	1	0.7	3.4	0	0.0	0.9	1	1.0	4.5
05-14 YEARS	1	0.3	0.2	0	0.0	0.4	1	0.4	0.2
15-24 YEARS	3	1.0	1.2	1	1.0	1.7	2	0.9	1.0
25-34 YEARS	6	1.8	2.1	1	0.8	0.7	5	2.4	2.9
35-44 YEARS	12	4.5	3.6	3	2.5	1.9	9	6.2	5.1
45-54 YEARS	18	8.9	8.4	8	8.4	6.6	10	9.3	9.8
55-64 YEARS	34	15.9	17.3	18	18.2	14.9	16	13.9	19.4
65 AND OVER	174	56.6	55.0	88	57.3	56.5	86	55.9	53.6
15. PLACE OF DEATH									
HOSPITAL	167	67.1	67.6	80	67.2	64.7	87	66.9	70.1
OTHER INSTITUTION	31	12.4	11.2	11	9.2	10.9	20	15.4	11.5
HOME OR NON-INSTITUTION	51	20.5	21.2	28	23.5	24.4	23	17.7	18.4
16. OCCURRENCE									
TOTAL	123	0.2	0.2	60	0.1	0.1	63	0.4	0.5
TO RESIDENTS	111	90.2	91.8	53	88.3	89.1	58	92.1	93.9
OTHER EVENTS									
17. MARRIAGES	151	7.2	7.3						
18. DIVORCES AND ANNULMENTS	55	2.6	2.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BLADEN COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	30932	0.5	0.5	18730	0.4	0.4	12202	0.8	0.8
MALES	14796	47.8	48.1	9204	49.1	49.1	5592	45.8	46.5
FEMALES	16136	52.2	51.9	9526	50.9	50.9	6610	54.2	53.5
2. NATURAL INCREASE	49	1.6	2.4	-14	-0.7	0.6	63	5.2	5.0
LIVE BIRTHS									
3. TOTAL	399	12.9	12.3	200	10.7	10.2	199	16.3	15.3
MALES	215	7.0	6.0	107	5.7	5.0	108	8.9	7.4
FEMALES	184	5.9	6.3	93	5.0	5.2	91	7.5	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	392	98.2	98.3	196	98.0	97.8	196	98.5	98.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.0	0	0.0	0.1
#CERTIFIED NURSE MIDWIFE	7	1.8	1.6	4	2.0	2.2	3	1.5	1.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	38	9.5	9.4	18	9.0	8.1	20	10.1	10.7
6. OUT OF WEDLOCK	148	37.1	30.5	27	13.5	10.1	121	60.8	51.1
7. OCCURRENCE									
TOTAL	230	0.2	0.2	105	0.2	0.1	125	0.4	0.4
TO RESIDENTS	218	94.8	93.7	96	91.4	89.3	122	97.6	97.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	14	34.2	26.6	3	14.9	19.9	11	53.1	33.3
9. FETAL DEATHS	10	24.4	14.6	2	9.9	8.4	8	38.6	20.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	100.0	2	100.0	100.0	8	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	70.0	64.3	0	0.0	37.5	7	87.5	75.0
10. NEONATAL (UNDER 28 DAYS)	4	10.0	12.2	1	5.0	11.6	3	15.1	12.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	2.5	3.8	1	5.0	3.2	0	0.0	4.3
12. INFANT DEATHS (UNDER 1 YEAR)	5	12.5	15.9	2	10.0	14.8	3	15.1	17.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	350	11.3	9.9	214	11.4	9.6	136	11.1	10.3
MALES	204	13.8	11.8	130	14.1	11.0	74	13.2	12.9
FEMALES	146	9.0	8.2	84	8.8	8.2	62	9.4	8.1
14. AGE									
00-04 YEARS	10	4.9	3.9	3	2.7	3.0	7	7.8	5.1
05-14 YEARS	1	0.2	0.3	0	0.0	0.3	1	0.5	0.4
15-24 YEARS	7	1.5	1.4	4	1.5	0.9	3	1.4	2.0
25-34 YEARS	12	2.5	1.5	3	1.1	0.9	9	4.4	2.3
35-44 YEARS	12	2.7	2.8	8	2.7	2.2	4	2.5	3.7
45-54 YEARS	18	5.7	7.2	9	4.2	6.5	9	9.0	8.7
55-64 YEARS	50	17.0	14.8	35	17.9	13.3	15	15.2	17.8
65 AND OVER	240	60.7	53.1	152	60.0	50.5	88	61.8	57.6
15. PLACE OF DEATH									
HOSPITAL	199	56.9	65.7	130	60.7	66.3	69	50.7	65.0
OTHER INSTITUTION	57	16.3	15.1	32	15.0	14.3	25	18.4	16.2
HOME OR NON-INSTITUTION	94	26.9	19.2	52	24.3	19.4	42	30.9	18.8
16. OCCURRENCE									
TOTAL	263	0.5	0.4	151	0.3	0.3	112	0.8	0.6
TO RESIDENTS	221	84.0	86.5	128	84.8	85.7	93	83.0	87.7
OTHER EVENTS									
17. MARRIAGES	147	4.8	4.4						
18. DIVORCES AND ANNULMENTS	116	3.8	3.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BRUNSWICK COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	50956	0.8	0.8	40916	0.8	0.8	10040	0.6	0.6
MALES	24826	48.7	48.9	20178	49.3	49.4	4648	46.3	46.8
FEMALES	26130	51.3	51.1	20738	50.7	50.6	5392	53.7	53.2
2. NATURAL INCREASE	265	5.2	5.7	175	4.3	4.7	90	9.0	9.4
LIVE BIRTHS									
3. TOTAL	686	13.5	13.9	520	12.7	13.2	166	16.5	16.9
MALES	344	6.8	7.1	264	6.5	6.8	80	8.0	8.2
FEMALES	342	6.7	6.9	256	6.3	6.4	86	8.6	8.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	681	99.3	99.5	516	99.2	99.4	165	99.4	99.5
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.1	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	59	8.6	7.1	33	6.3	5.7	26	15.7	11.5
6. OUT OF WEDLOCK	171	24.9	22.3	77	14.8	12.4	94	56.6	51.3
7. OCCURRENCE									
TOTAL	210	0.2	0.1	163	0.2	0.1	47	0.1	0.1
TO RESIDENTS	197	93.8	95.0	151	92.6	93.7	46	97.9	98.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	5	7.2	11.7	4	7.6	8.8	1	6.0	20.1
9. FETAL DEATHS	4	5.8	7.5	4	7.6	6.4	0	0.0	10.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	4	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	1	25.0	32.0	1	25.0	31.3	0		33.3
10. NEONATAL (UNDER 28 DAYS)	1	1.5	4.2	0	0.0	2.4	1	6.0	9.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	4.4	3.3	2	3.8	3.2	1	6.1	3.6
12. INFANT DEATHS (UNDER 1 YEAR)	4	5.8	7.6	2	3.8	5.7	2	12.0	13.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	421	8.3	8.3	345	8.4	8.5	76	7.6	7.5
MALES	231	9.3	9.7	195	9.7	10.1	36	7.7	8.2
FEMALES	190	7.3	6.9	150	7.2	6.9	40	7.4	6.8
14. AGE									
00-04 YEARS	6	1.5	1.6	4	1.3	1.3	2	2.3	2.8
05-14 YEARS	6	0.8	0.4	1	0.2	0.3	5	2.8	0.9
15-24 YEARS	7	0.9	1.2	7	1.2	1.3	0	0.0	0.9
25-34 YEARS	13	1.7	1.7	7	1.1	1.5	6	3.7	2.2
35-44 YEARS	19	2.7	2.3	14	2.5	2.2	5	3.7	3.1
45-54 YEARS	29	5.3	5.8	24	5.3	6.0	5	5.6	4.6
55-64 YEARS	67	13.0	14.4	57	13.1	14.2	10	12.8	15.8
65 AND OVER	274	42.9	43.8	231	43.2	43.5	43	41.5	45.1
15. PLACE OF DEATH									
HOSPITAL	269	63.9	65.9	218	63.2	65.1	51	67.1	69.6
OTHER INSTITUTION	43	10.2	12.4	35	10.1	13.0	8	10.5	10.0
HOME OR NON-INSTITUTION	109	25.9	21.6	92	26.7	21.9	17	22.4	20.3
16. OCCURRENCE									
TOTAL	279	0.5	0.4	230	0.5	0.5	49	0.3	0.3
TO RESIDENTS	251	90.0	88.3	209	90.9	87.7	42	85.7	90.8
OTHER EVENTS									
17. MARRIAGES	334	6.6	6.4						
18. DIVORCES AND ANNULMENTS	224	4.4	3.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BUNCOMBE COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	173198	2.7	2.7	157391	3.2	3.2	15807	1.0	1.0
MALES	81693	47.2	47.2	74467	47.3	47.4	7226	45.7	46.1
FEMALES	91505	52.8	52.8	82924	52.7	52.6	8581	54.3	53.9
2. NATURAL INCREASE	513	3.0	2.4	404	2.6	2.1	109	6.9	5.6
LIVE BIRTHS									
3. TOTAL	2359	13.6	12.7	2053	13.0	12.3	306	19.4	17.1
MALES	1245	7.2	6.5	1079	6.9	6.3	166	10.5	8.8
FEMALES	1114	6.4	6.2	974	6.2	6.0	140	8.9	8.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2264	96.0	95.9	1966	95.8	95.6	298	97.4	98.1
PHYSICIAN NOT IN HOSPITAL	10	0.4	0.5	8	0.4	0.5	2	0.7	0.4
#CERTIFIED NURSE MIDWIFE	74	3.1	3.1	70	3.4	3.3	4	1.3	1.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	145	6.1	6.9	114	5.6	6.3	31	10.1	11.0
6. OUT OF WEDLOCK	534	22.6	19.3	332	16.2	13.1	202	66.0	62.3
7. OCCURRENCE									
TOTAL	3128	3.2	3.1	2795	4.2	4.1	333	1.1	1.1
TO RESIDENTS	2257	72.2	71.6	1961	70.2	69.8	296	88.9	86.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	40	16.8	17.1	24	11.6	14.8	16	51.0	33.4
9. FETAL DEATHS	23	9.7	9.9	15	7.3	8.7	8	25.5	18.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	23	100.0	95.4	15	100.0	96.4	8	100.0	92.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.9	0	0.0	1.2	0	0.0	4.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.9	0	0.0	1.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	12	52.2	36.1	6	40.0	30.1	6	75.0	56.0
10. NEONATAL (UNDER 28 DAYS)	17	7.2	7.3	9	4.4	6.1	8	26.1	15.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	8	3.4	2.4	8	3.9	2.6	0	0.0	1.5
12. INFANT DEATHS (UNDER 1 YEAR)	25	10.6	9.7	17	8.3	8.7	8	26.1	17.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1846	10.7	10.3	1649	10.5	10.2	197	12.5	11.5
MALES	913	11.2	10.9	811	10.9	10.8	102	14.1	12.6
FEMALES	933	10.2	9.8	838	10.1	9.7	95	11.1	10.5
14. AGE									
00-04 YEARS	29	2.8	2.4	20	2.2	2.1	9	7.4	4.5
05-14 YEARS	10	0.5	0.3	9	0.5	0.3	1	0.4	0.3
15-24 YEARS	18	0.7	0.9	17	0.8	0.9	1	0.4	0.6
25-34 YEARS	35	1.2	1.1	27	1.0	1.1	8	3.2	1.9
35-44 YEARS	52	2.0	1.9	41	1.8	1.7	11	5.2	4.0
45-54 YEARS	83	4.4	5.1	72	4.1	4.8	11	8.7	8.9
55-64 YEARS	245	13.9	13.0	214	13.1	12.3	31	23.8	21.2
65 AND OVER	1374	51.6	51.3	1249	50.9	50.7	125	59.7	57.9
15. PLACE OF DEATH									
HOSPITAL	888	48.1	50.1	771	46.8	49.3	117	59.4	56.9
OTHER INSTITUTION	487	26.4	27.0	451	27.3	27.6	36	18.3	21.3
HOME OR NON-INSTITUTION	471	25.5	22.9	427	25.9	23.0	44	22.3	21.8
16. OCCURRENCE									
TOTAL	2586	4.5	4.5	2352	5.4	5.4	234	1.7	1.7
TO RESIDENTS	1733	67.0	66.4	1547	65.8	65.4	186	79.5	75.9
OTHER EVENTS									
17. MARRIAGES	1577	9.1	9.2						
18. DIVORCES AND ANNULMENTS	938	5.4	5.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BURKE COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	77311	1.2	1.2	71588	1.5	1.5	5723	0.4	0.4
MALES	37533	48.5	48.6	34763	48.6	48.6	2770	48.4	48.9
FEMALES	39778	51.5	51.4	36825	51.4	51.4	2953	51.6	51.1
2. NATURAL INCREASE	270	3.5	3.9	225	3.1	3.5	45	7.9	7.9
LIVE BIRTHS									
3. TOTAL	959	12.4	12.0	852	11.9	11.6	107	18.7	16.3
MALES	502	6.5	6.3	448	6.3	6.2	54	9.4	8.4
FEMALES	457	5.9	5.6	404	5.6	5.4	53	9.3	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	956	99.7	99.4	849	99.6	99.5	107	100.0	99.4
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.1	0.1	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	1	0.1	0.1	1	0.1	0.1	0	0.0	0.0
5. PREMATURE BIRTHS	73	7.6	8.2	59	6.9	7.5	14	13.1	13.8
6. OUT OF WEDLOCK	226	23.6	19.9	164	19.2	16.3	62	57.9	51.6
7. OCCURRENCE									
TOTAL	1201	1.2	1.1	1090	1.6	1.5	111	0.4	0.3
TO RESIDENTS	811	67.5	71.5	714	65.5	69.7	97	87.4	89.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	19	19.6	13.1	17	19.8	12.2	2	18.7	21.1
9. FETAL DEATHS	8	8.3	7.0	8	9.3	7.1	0	0.0	6.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	100.0	100.0	8	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	2	25.0	21.9	2	25.0	17.2	0		66.7
10. NEONATAL (UNDER 28 DAYS)	11	11.5	6.2	9	10.6	5.2	2	18.7	14.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	3.2	2.9	2	2.4	2.5	1	9.5	6.5
12. INFANT DEATHS (UNDER 1 YEAR)	14	14.6	9.0	11	12.9	7.6	3	28.0	21.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	689	8.9	8.1	627	8.8	8.1	62	10.8	8.5
MALES	372	9.9	9.2	346	10.0	9.2	26	9.4	8.7
FEMALES	317	8.0	7.1	281	7.6	7.0	36	12.2	8.3
14. AGE									
00-04 YEARS	17	3.7	2.3	14	3.3	2.0	3	7.7	4.9
05-14 YEARS	4	0.4	0.2	4	0.4	0.2	0	0.0	0.2
15-24 YEARS	17	1.4	1.1	14	1.3	1.2	3	2.5	0.8
25-34 YEARS	21	1.7	1.5	18	1.5	1.5	3	3.2	1.7
35-44 YEARS	27	2.3	2.4	22	2.0	2.3	5	6.5	3.8
45-54 YEARS	41	4.5	5.2	35	4.1	4.9	6	11.2	8.9
55-64 YEARS	103	13.6	11.5	95	13.3	11.4	8	18.4	14.2
65 AND OVER	459	49.9	47.4	425	48.9	46.8	34	65.4	57.7
15. PLACE OF DEATH									
HOSPITAL	435	63.1	62.4	389	62.0	62.1	46	74.2	65.2
OTHER INSTITUTION	119	17.3	20.1	112	17.9	19.9	7	11.3	21.7
HOME OR NON-INSTITUTION	135	19.6	17.6	126	20.1	18.0	9	14.5	13.1
16. OCCURRENCE									
TOTAL	647	1.1	1.1	580	1.3	1.3	67	0.5	0.4
TO RESIDENTS	522	80.7	81.6	472	81.4	81.7	50	74.6	79.9
OTHER EVENTS									
17. MARRIAGES	518	6.7	6.6						
18. DIVORCES AND ANNULMENTS	376	4.9	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CABARRUS COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	95941	1.5	1.5	83485	1.7	1.7	12456	0.8	0.8
MALES	45839	47.8	47.9	40152	48.1	48.2	5687	45.7	46.0
FEMALES	50102	52.2	52.1	43333	51.9	51.8	6769	54.3	54.0
2. NATURAL INCREASE	494	5.1	4.5	341	4.1	3.5	153	12.3	10.7
LIVE BIRTHS									
3. TOTAL	1396	14.6	13.6	1115	13.4	12.5	281	22.6	20.9
MALES	701	7.3	7.0	558	6.7	6.4	143	11.5	10.7
FEMALES	695	7.2	6.6	557	6.7	6.1	138	11.1	10.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1391	99.6	99.6	1111	99.6	99.7	280	99.6	99.5
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.1	0.0	0	0.0	0.4
#CERTIFIED NURSE MIDWIFE	4	0.3	0.2	3	0.3	0.2	1	0.4	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	140	10.0	8.7	93	8.3	7.1	47	16.7	14.8
6. OUT OF WEDLOCK	321	23.0	21.9	131	11.7	9.9	190	67.6	67.5
7. OCCURRENCE									
TOTAL	1278	1.3	1.4	1007	1.5	1.6	271	0.9	0.9
TO RESIDENTS	906	70.9	68.0	669	66.4	63.1	237	87.5	87.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	22	15.6	15.6	18	16.0	13.8	4	14.1	22.3
9. FETAL DEATHS	11	7.8	8.6	9	8.0	7.3	2	7.1	13.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	11	100.0	100.0	9	100.0	100.0	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	27.3	29.1	1	11.1	10.8	2	100.0	66.7
10. NEONATAL (UNDER 28 DAYS)	11	7.9	7.1	9	8.1	6.6	2	7.1	9.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	3.6	4.1	4	3.6	3.6	1	3.6	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	16	11.5	11.2	13	11.7	10.2	3	10.7	15.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	902	9.4	9.1	774	9.3	9.0	128	10.3	10.3
MALES	461	10.1	10.0	394	9.8	9.6	67	11.8	12.3
FEMALES	441	8.8	8.4	380	8.8	8.3	61	9.0	8.6
14. AGE									
00-04 YEARS	20	3.3	2.9	14	2.8	2.4	6	6.5	5.2
05-14 YEARS	3	0.2	0.3	1	0.1	0.3	2	0.9	0.4
15-24 YEARS	13	0.9	1.2	9	0.8	1.1	4	1.6	1.4
25-34 YEARS	22	1.5	1.2	17	1.3	1.1	5	2.6	1.9
35-44 YEARS	31	2.2	1.9	23	1.8	1.6	8	4.8	4.3
45-54 YEARS	51	4.8	5.2	45	4.7	4.5	6	5.4	10.4
55-64 YEARS	122	12.8	13.1	100	11.6	11.9	22	24.2	23.8
65 AND OVER	640	48.5	48.0	565	47.7	46.8	75	55.8	58.1
15. PLACE OF DEATH									
HOSPITAL	614	68.1	70.3	519	67.1	69.8	95	74.2	73.3
OTHER INSTITUTION	131	14.5	11.8	119	15.4	12.1	12	9.4	10.1
HOME OR NON-INSTITUTION	157	17.4	17.9	136	17.6	18.1	21	16.4	16.6
16. OCCURRENCE									
TOTAL	855	1.5	1.5	739	1.7	1.7	116	0.8	0.9
TO RESIDENTS	712	83.3	80.3	603	81.6	78.7	109	94.0	90.3
OTHER EVENTS									
17. MARRIAGES	710	7.4	7.7						
18. DIVORCES AND ANNULMENTS	444	4.6	4.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CALDWELL COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	71450	1.1	1.1	67633	1.4	1.4	3817	0.2	0.3
MALES	34844	48.8	48.8	33109	49.0	49.0	1735	45.5	46.0
FEMALES	36606	51.2	51.2	34524	51.0	51.0	2082	54.5	54.0
2. NATURAL INCREASE	389	5.4	5.0	334	4.9	4.7	55	14.4	8.9
LIVE BIRTHS									
3. TOTAL	1010	14.1	13.0	913	13.5	12.7	97	25.4	18.4
MALES	522	7.3	6.7	467	6.9	6.5	55	14.4	10.2
FEMALES	488	6.8	6.3	446	6.6	6.1	42	11.0	8.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1007	99.7	99.8	911	99.8	99.8	96	99.0	99.4
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.0	1	0.1	0.0	0	0.0	0.3
#CERTIFIED NURSE MIDWIFE	1	0.1	0.0	0	0.0	0.0	1	1.0	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	87	8.6	7.8	70	7.7	7.4	17	17.5	13.0
6. OUT OF WEDLOCK	273	27.0	21.1	203	22.2	17.6	70	72.2	61.5
7. OCCURRENCE									
TOTAL	463	0.5	0.5	388	0.6	0.7	75	0.2	0.2
TO RESIDENTS	452	97.6	95.0	380	97.9	95.1	72	96.0	94.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	17	16.8	14.2	14	15.3	13.3	3	30.6	24.5
9. FETAL DEATHS	3	3.0	7.4	2	2.2	6.6	1	10.2	16.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	97.1	2	100.0	96.4	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.9	0	0.0	3.6	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	66.7	32.4	1	50.0	25.0	1	100.0	66.7
10. NEONATAL (UNDER 28 DAYS)	14	13.9	6.8	12	13.1	6.7	2	20.6	8.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	7	7.0	4.6	6	6.7	3.8	1	10.5	14.0
12. INFANT DEATHS (UNDER 1 YEAR)	21	20.8	11.4	18	19.7	10.5	3	30.9	22.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	621	8.7	8.0	579	8.6	7.9	42	11.0	9.5
MALES	345	9.9	8.8	325	9.8	8.8	20	11.5	10.3
FEMALES	276	7.5	7.3	254	7.4	7.2	22	10.6	8.9
14. AGE									
00-04 YEARS	24	5.4	2.6	21	5.0	2.4	3	10.1	5.7
05-14 YEARS	0	0.0	0.2	0	0.0	0.2	0	0.0	0.6
15-24 YEARS	8	0.7	0.9	7	0.7	0.9	1	1.4	1.1
25-34 YEARS	16	1.4	1.2	14	1.3	1.0	2	3.5	4.1
35-44 YEARS	20	1.9	1.9	18	1.8	1.8	2	4.0	4.5
45-54 YEARS	53	6.3	5.7	48	5.9	5.4	5	14.0	13.9
55-64 YEARS	93	13.4	13.2	87	13.1	13.0	6	18.2	16.7
65 AND OVER	407	49.7	48.3	384	49.4	48.3	23	55.8	48.3
15. PLACE OF DEATH									
HOSPITAL	405	65.2	63.8	375	64.8	63.4	30	71.4	70.1
OTHER INSTITUTION	87	14.0	13.6	82	14.2	13.8	5	11.9	11.8
HOME OR NON-INSTITUTION	129	20.8	22.6	122	21.1	22.9	7	16.7	18.2
16. OCCURRENCE									
TOTAL	459	0.8	0.8	425	1.0	0.9	34	0.2	0.2
TO RESIDENTS	395	86.1	86.9	367	86.4	87.0	28	82.4	85.0
OTHER EVENTS									
17. MARRIAGES	585	8.2	8.4						
18. DIVORCES AND ANNULMENTS	437	6.1	5.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CAMDEN COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	6057	0.1	0.1	4325	0.1	0.1	1732	0.1	0.1
MALES	2953	48.8	48.8	2150	49.7	49.6	803	46.4	46.7
FEMALES	3104	51.2	51.2	2175	50.3	50.4	929	53.6	53.3
2. NATURAL INCREASE	2	0.3	2.0	2	0.5	0.6	0	0.0	5.4
LIVE BIRTHS									
3. TOTAL	64	10.6	11.8	45	10.4	11.0	19	11.0	13.6
MALES	31	5.1	6.1	22	5.1	5.9	9	5.2	6.5
FEMALES	33	5.4	5.8	23	5.3	5.2	10	5.8	7.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	63	98.4	93.7	44	97.8	91.7	19	100.0	97.5
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	1.6	6.3	1	2.2	8.3	0	0.0	2.5
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	5	7.8	7.7	4	8.9	5.3	1	5.3	12.4
6. OUT OF WEDLOCK	26	40.6	29.2	11	24.4	14.0	15	78.9	57.9
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0	-		0			0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	0	0.0	19.7	0	0.0	21.6	0	0.0	16.3
9. FETAL DEATHS	0	0.0	16.9	0	0.0	17.2	0	0.0	16.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		0.0
PERMITTED MIDWIFE	0		0.0	0		0.0	0		0.0
OUT OF WEDLOCK	0		33.3	0		0.0	0		100.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	2.9	0	0.0	4.4	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.9	0	0.0	4.4	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	5.7	0	0.0	8.8	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	62	10.2	9.8	43	9.9	10.5	19	11.0	8.2
MALES	34	11.5	11.0	24	11.2	11.1	10	12.5	10.8
FEMALES	28	9.0	8.6	19	8.7	9.8	9	9.7	5.9
14. AGE									
00-04 YEARS	0	0.0	1.0	0	0.0	1.6	0	0.0	0.0
05-14 YEARS	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
15-24 YEARS	1	1.1	0.9	1	1.7	0.7	0	0.0	1.2
25-34 YEARS	1	1.1	1.3	0	0.0	1.0	1	3.5	2.1
35-44 YEARS	1	1.2	2.2	0	0.0	1.0	1	4.5	5.8
45-54 YEARS	5	7.1	4.6	4	7.4	3.6	1	6.1	7.5
55-64 YEARS	7	11.4	14.3	6	13.6	16.0	1	5.8	10.2
65 AND OVER	47	58.2	54.5	32	51.7	55.8	15	79.8	50.3
15. PLACE OF DEATH									
HOSPITAL	43	69.4	63.3	32	74.4	64.8	11	57.9	58.9
OTHER INSTITUTION	7	11.3	13.1	4	9.3	13.9	3	15.8	11.0
HOME OR NON-INSTITUTION	12	19.4	23.5	7	16.3	21.3	5	26.3	30.1
16. OCCURRENCE									
TOTAL	13	0.0	0.0	8	0.0	0.0	5	0.0	0.0
TO RESIDENTS	11	84.6	85.9	6	75.0	80.7	5	100.0	100.0
OTHER EVENTS									
17. MARRIAGES	48	7.9	7.7						
18. DIVORCES AND ANNULMENTS	7	1.2	1.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CARTERET COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	51038	0.8	0.8	46352	0.9	0.9	4686	0.3	0.3
MALES	25322	49.6	49.7	23052	49.7	49.8	2270	48.4	48.8
FEMALES	25716	50.4	50.3	23300	50.3	50.2	2416	51.6	51.2
2. NATURAL INCREASE	203	4.0	5.3	169	3.6	4.9	34	7.3	9.6
LIVE BIRTHS									
3. TOTAL	687	13.5	14.3	609	13.1	13.8	78	16.6	19.4
MALES	379	7.4	7.4	336	7.2	7.1	43	9.2	9.9
FEMALES	308	6.0	7.0	273	5.9	6.7	35	7.5	9.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	660	96.1	97.9	583	95.7	97.8	77	98.7	98.9
PHYSICIAN NOT IN HOSPITAL	7	1.0	0.5	7	1.1	0.5	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	18	2.6	1.3	17	2.8	1.4	1	1.3	0.9
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	47	6.8	6.6	38	6.2	6.1	9	11.5	9.6
6. OUT OF WEDLOCK	125	18.2	14.3	86	14.1	10.0	39	50.0	43.3
7. OCCURRENCE									
TOTAL	513	0.5	0.7	441	0.7	0.8	72	0.2	0.3
TO RESIDENTS	473	92.2	87.5	411	93.2	88.1	62	86.1	83.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	11	15.9	11.8	10	16.3	12.2	1	12.8	8.7
9. FETAL DEATHS	3	4.3	4.8	3	4.9	5.5	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	3	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	0.0	0	0.0	0.0	0		
10. NEONATAL (UNDER 28 DAYS)	8	11.6	7.0	7	11.5	6.8	1	12.8	8.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	2.9	4.5	2	3.3	4.2	0	0.0	6.6
12. INFANT DEATHS (UNDER 1 YEAR)	10	14.6	11.5	9	14.8	11.0	1	12.8	15.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	484	9.5	9.0	440	9.5	8.9	44	9.4	9.8
MALES	273	10.8	10.0	246	10.7	9.8	27	11.9	11.7
FEMALES	211	8.2	8.1	194	8.3	8.1	17	7.0	8.0
14. AGE									
00-04 YEARS	14	4.0	2.9	12	3.9	2.6	2	5.1	4.5
05-14 YEARS	2	0.3	0.2	2	0.4	0.2	0	0.0	0.0
15-24 YEARS	5	0.7	1.0	3	0.4	0.9	2	2.4	1.5
25-34 YEARS	14	1.6	1.4	9	1.2	1.3	5	5.8	2.1
35-44 YEARS	19	2.6	2.0	15	2.3	1.7	4	6.4	5.2
45-54 YEARS	31	5.8	6.0	26	5.2	5.5	5	13.4	13.3
55-64 YEARS	60	11.2	12.1	53	10.6	11.6	7	20.1	18.6
65 AND OVER	339	49.0	48.4	320	49.3	47.3	19	44.7	63.4
15. PLACE OF DEATH									
HOSPITAL	311	64.3	66.3	284	64.5	66.4	27	61.4	65.5
OTHER INSTITUTION	71	14.7	15.6	62	14.1	15.2	9	20.5	18.5
HOME OR NON-INSTITUTION	102	21.1	18.1	94	21.4	18.3	8	18.2	15.9
16. OCCURRENCE									
TOTAL	452	0.8	0.8	403	0.9	0.9	49	0.3	0.4
TO RESIDENTS	395	87.4	87.9	360	89.3	88.9	35	71.4	80.2
OTHER EVENTS									
17. MARRIAGES	605	11.9	11.8						
18. DIVORCES AND ANNULMENTS	266	5.2	4.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CASWELL COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	22193	0.3	0.4	13465	0.3	0.3	8728	0.6	0.6
MALES	10866	49.0	49.2	6723	49.9	50.0	4143	47.5	48.1
FEMALES	11327	51.0	50.8	6742	50.1	50.0	4585	52.5	51.9
2. NATURAL INCREASE	87	3.9	3.1	41	3.0	2.2	46	5.3	4.4
LIVE BIRTHS									
3. TOTAL	272	12.3	11.4	159	11.8	10.8	113	12.9	12.2
MALES	151	6.8	5.8	95	7.1	5.5	56	6.4	6.2
FEMALES	121	5.5	5.6	64	4.8	5.3	57	6.5	6.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	263	96.7	98.0	152	95.6	97.1	111	98.2	99.3
PHYSICIAN NOT IN HOSPITAL	1	0.4	0.2	1	0.6	0.3	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	5	1.8	1.1	4	2.5	1.8	1	0.9	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	27	9.9	8.7	12	7.5	6.5	15	13.3	11.5
6. OUT OF WEDLOCK	67	24.6	24.9	19	11.9	8.6	48	42.5	45.9
7. OCCURRENCE									
TOTAL	4	0.0	0.0	3	0.0	0.0	1	0.0	0.0
TO RESIDENTS	4	100.0	100.0	3	100.0	100.0	1	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	21.8	9.4	1	6.3	7.0	5	43.1	12.5
9. FETAL DEATHS	3	10.9	5.5	0	0.0	4.2	3	25.9	7.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	0		100.0	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	2	66.7	42.9	0		0.0	2	66.7	75.0
10. NEONATAL (UNDER 28 DAYS)	3	11.0	3.9	1	6.3	2.8	2	17.7	5.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	1.6	0	0.0	1.4	0	0.0	1.8
12. INFANT DEATHS (UNDER 1 YEAR)	3	11.0	5.5	1	6.3	4.2	2	17.7	7.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	185	8.3	8.3	118	8.8	8.7	67	7.7	7.8
MALES	89	8.2	9.5	51	7.6	9.3	38	9.2	9.9
FEMALES	96	8.5	7.2	67	9.9	8.0	29	6.3	6.0
14. AGE									
00-04 YEARS	5	3.7	1.7	2	2.5	1.3	3	5.5	2.4
05-14 YEARS	3	1.0	0.6	1	0.6	0.6	2	1.6	0.7
15-24 YEARS	3	0.9	0.9	2	1.0	0.9	1	0.7	0.8
25-34 YEARS	2	0.5	1.7	0	0.0	0.9	2	1.3	2.7
35-44 YEARS	9	2.7	2.3	7	3.5	1.9	2	1.5	3.0
45-54 YEARS	6	2.4	4.8	5	3.2	4.2	1	1.1	5.6
55-64 YEARS	26	12.3	12.7	16	12.0	12.7	10	12.8	12.8
65 AND OVER	131	48.1	48.0	85	47.5	47.7	46	49.4	48.6
15. PLACE OF DEATH									
HOSPITAL	100	54.1	60.2	67	56.8	60.0	33	49.3	60.5
OTHER INSTITUTION	37	20.0	15.4	22	18.6	15.1	15	22.4	16.0
HOME OR NON-INSTITUTION	48	25.9	24.4	29	24.6	24.9	19	28.4	23.5
16. OCCURRENCE									
TOTAL	81	0.1	0.1	54	0.1	0.1	27	0.2	0.2
TO RESIDENTS	68	84.0	84.6	43	79.6	81.3	25	92.6	90.4
OTHER EVENTS									
17. MARRIAGES	150	6.8	6.4						
18. DIVORCES AND ANNULMENTS	57	2.6	2.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CATAWBA COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	117347	1.8	1.8	105666	2.1	2.1	11681	0.7	0.7
MALES	56519	48.2	48.2	51002	48.3	48.3	5517	47.2	47.6
FEMALES	60828	51.8	51.8	54664	51.7	51.7	6164	52.8	52.4
2. NATURAL INCREASE	728	6.2	5.1	550	5.2	4.5	178	15.2	10.5
LIVE BIRTHS									
3. TOTAL	1681	14.3	13.2	1410	13.3	12.7	271	23.2	18.0
MALES	829	7.1	6.8	692	6.5	6.5	137	11.7	9.1
FEMALES	852	7.3	6.4	718	6.8	6.2	134	11.5	8.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1678	99.8	99.9	1407	99.8	99.9	271	100.0	99.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	2	0.1	0.1	2	0.1	0.0	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	115	6.8	7.7	86	6.1	7.0	29	10.7	12.3
6. OUT OF WEDLOCK	380	22.6	18.6	208	14.8	11.9	172	63.5	61.0
7. OCCURRENCE									
TOTAL	2199	2.2	2.2	1922	2.9	2.9	277	0.9	0.8
TO RESIDENTS	1532	69.7	66.4	1282	66.7	63.8	250	90.3	88.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	22	13.0	16.9	20	14.0	16.0	2	7.4	23.0
9. FETAL DEATHS	16	9.4	9.5	15	10.5	9.4	1	3.7	9.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	16	100.0	100.0	15	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	25.0	27.8	3	20.0	19.4	1	100.0	80.0
10. NEONATAL (UNDER 28 DAYS)	6	3.6	7.6	5	3.5	6.6	1	3.7	13.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	9	5.4	4.4	9	6.4	4.5	0	0.0	3.9
12. INFANT DEATHS (UNDER 1 YEAR)	15	8.9	11.9	14	9.9	11.1	1	3.7	17.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	953	8.1	8.1	860	8.1	8.2	93	8.0	7.6
MALES	506	9.0	8.9	457	9.0	9.0	49	8.9	8.8
FEMALES	447	7.3	7.4	403	7.4	7.5	44	7.1	6.5
14. AGE									
00-04 YEARS	20	2.6	2.9	19	2.8	2.7	1	1.0	4.5
05-14 YEARS	3	0.2	0.2	3	0.2	0.2	0	0.0	0.2
15-24 YEARS	16	0.9	1.0	12	0.8	0.9	4	1.9	1.7
25-34 YEARS	23	1.2	1.2	19	1.1	1.1	4	2.0	2.2
35-44 YEARS	32	1.8	2.0	29	1.8	1.9	3	1.9	3.1
45-54 YEARS	62	4.7	5.0	52	4.3	4.8	10	9.7	8.1
55-64 YEARS	132	11.9	12.7	116	11.2	12.4	16	20.6	16.5
65 AND OVER	665	48.3	48.9	610	47.6	48.6	55	57.4	53.2
15. PLACE OF DEATH									
HOSPITAL	600	63.0	64.3	537	62.4	64.0	63	67.7	66.8
OTHER INSTITUTION	174	18.3	20.6	157	18.3	20.9	17	18.3	17.5
HOME OR NON-INSTITUTION	179	18.8	15.1	166	19.3	15.1	13	14.0	15.7
16. OCCURRENCE									
TOTAL	1031	1.8	1.8	944	2.2	2.2	87	0.6	0.6
TO RESIDENTS	788	76.4	76.9	710	75.2	75.8	78	89.7	88.8
OTHER EVENTS									
17. MARRIAGES	931	7.9	7.8						
18. DIVORCES AND ANNULMENTS	718	6.1	6.1						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CHATHAM COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	36736	0.6	0.6	27819	0.6	0.6	8917	0.6	0.6
MALES	17873	48.7	48.9	13588	48.8	49.0	4285	48.1	48.6
FEMALES	18863	51.3	51.1	14231	51.2	51.0	4632	51.9	51.4
2. NATURAL INCREASE	221	6.0	5.7	180	6.5	5.5	41	4.6	6.1
LIVE BIRTHS									
3. TOTAL	582	15.8	14.8	442	15.9	14.5	140	15.7	15.7
MALES	296	8.1	7.5	228	8.2	7.4	68	7.6	7.8
FEMALES	286	7.8	7.3	214	7.7	7.1	72	8.1	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	524	90.0	90.4	396	89.6	88.4	128	91.4	95.9
PHYSICIAN NOT IN HOSPITAL	1	0.2	0.2	1	0.2	0.2	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	54	9.3	8.8	44	10.0	10.7	10	7.1	3.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	41	7.0	7.6	20	4.5	4.4	21	15.0	16.4
6. OUT OF WEDLOCK	114	19.6	18.6	33	7.5	6.9	81	57.9	50.7
7. OCCURRENCE									
TOTAL	180	0.2	0.2	147	0.2	0.3	33	0.1	0.1
TO RESIDENTS	72	40.0	39.5	50	34.0	36.6	22	66.7	62.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	11	18.7	16.4	6	13.4	15.8	5	35.5	18.1
9. FETAL DEATHS	7	11.9	8.2	6	13.4	7.6	1	7.1	9.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	7	100.0	100.0	6	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	28.6	22.7	1	16.7	6.7	1	100.0	57.1
10. NEONATAL (UNDER 28 DAYS)	4	6.9	8.3	0	0.0	8.2	4	28.6	8.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	5.2	3.4	2	4.5	1.6	1	7.4	8.5
12. INFANT DEATHS (UNDER 1 YEAR)	7	12.0	11.6	2	4.5	9.7	5	35.7	16.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	361	9.8	9.2	262	9.4	9.0	99	11.1	9.6
MALES	203	11.4	10.6	147	10.8	10.2	56	13.1	11.7
FEMALES	158	8.4	7.8	115	8.1	7.9	43	9.3	7.6
14. AGE									
00-04 YEARS	9	4.0	3.1	4	2.4	2.6	5	9.0	4.5
05-14 YEARS	0	0.0	0.2	0	0.0	0.1	0	0.0	0.3
15-24 YEARS	5	1.0	1.2	3	0.8	1.0	2	1.4	1.8
25-34 YEARS	6	0.9	1.3	3	0.6	1.0	3	2.0	1.9
35-44 YEARS	14	2.4	2.0	9	2.0	1.8	5	3.7	2.7
45-54 YEARS	29	7.2	6.4	13	4.2	4.5	16	18.0	12.9
55-64 YEARS	42	11.7	13.2	26	9.4	11.5	16	19.2	18.9
65 AND OVER	256	51.6	48.4	204	52.8	49.3	52	47.3	45.3
15. PLACE OF DEATH									
HOSPITAL	200	55.4	57.5	146	55.7	57.7	54	54.5	57.1
OTHER INSTITUTION	68	18.8	17.8	53	20.2	19.1	15	15.2	14.3
HOME OR NON-INSTITUTION	93	25.8	24.7	63	24.0	23.3	30	30.3	28.6
16. OCCURRENCE									
TOTAL	254	0.4	0.4	183	0.4	0.4	71	0.5	0.4
TO RESIDENTS	210	82.7	84.5	150	82.0	84.0	60	84.5	86.0
OTHER EVENTS									
17. MARRIAGES	314	8.5	7.9						
18. DIVORCES AND ANNULMENTS	129	3.5	3.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CHEROKEE COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	21186	0.3	0.3	20386	0.4	0.4	800	0.1	0.0
MALES	10124	47.8	47.9	9767	47.9	48.0	357	44.6	45.1
FEMALES	11062	52.2	52.1	10619	52.1	52.0	443	55.4	54.9
2. NATURAL INCREASE	6	0.3	0.8	7	0.3	0.6	-1	-1.2	4.7
LIVE BIRTHS									
3. TOTAL	214	10.1	10.6	208	10.2	10.4	6	7.5	14.3
MALES	104	4.9	5.3	102	5.0	5.2	2	2.5	6.7
FEMALES	110	5.2	5.3	106	5.2	5.2	4	5.0	7.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	213	99.5	99.2	207	99.5	99.1	6	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	5	2.3	4.6	5	2.4	4.8	0	0.0	1.8
6. OUT OF WEDLOCK	32	15.0	11.3	30	14.4	11.0	2	33.3	18.2
7. OCCURRENCE									
TOTAL	200	0.2	0.2	195	0.3	0.3	5	0.0	0.0
TO RESIDENTS	123	61.5	66.7	120	61.5	66.1	3	60.0	83.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	9.3	11.0	2	9.6	11.6	0	0.0	0.0
9. FETAL DEATHS	1	4.7	5.5	1	4.8	5.8	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	0	0.0	83.3	0	0.0	83.3	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	0.0	0	0.0	0.0	0		
10. NEONATAL (UNDER 28 DAYS)	1	4.7	5.5	1	4.8	5.8	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	1.9	0	0.0	1.0	0	0.0	18.2
12. INFANT DEATHS (UNDER 1 YEAR)	1	4.7	7.4	1	4.8	6.8	0	0.0	18.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	208	9.8	9.8	201	9.9	9.8	7	8.7	9.6
MALES	116	11.5	11.6	111	11.4	11.5	5	14.0	12.7
FEMALES	92	8.3	8.2	90	8.5	8.2	2	4.5	7.1
14. AGE									
00-04 YEARS	1	0.7	1.2	1	0.8	1.1	0	0.0	4.2
05-14 YEARS	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
15-24 YEARS	1	0.3	0.7	1	0.4	0.7	0	0.0	0.0
25-34 YEARS	1	0.4	1.1	1	0.4	1.1	0	0.0	1.6
35-44 YEARS	6	2.1	1.4	4	1.4	1.2	2	16.8	7.2
45-54 YEARS	13	5.5	5.7	13	5.7	5.5	0	0.0	13.9
55-64 YEARS	23	10.2	11.9	23	10.5	11.7	0	0.0	21.0
65 AND OVER	163	44.5	44.4	158	44.8	44.9	5	37.9	32.8
15. PLACE OF DEATH									
HOSPITAL	125	60.1	63.1	119	59.2	62.8	6	85.7	70.3
OTHER INSTITUTION	41	19.7	19.8	40	19.9	19.8	1	14.3	18.9
HOME OR NON-INSTITUTION	42	20.2	17.1	42	20.9	17.3	0	0.0	10.8
16. OCCURRENCE									
TOTAL	187	0.3	0.3	182	0.4	0.4	5	0.0	0.0
TO RESIDENTS	144	77.0	74.9	139	76.4	74.7	5	100.0	82.8
OTHER EVENTS									
17. MARRIAGES	219	10.3	10.1						
18. DIVORCES AND ANNULMENTS	94	4.4	3.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CHOWAN COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	13695	0.2	0.2	8003	0.2	0.2	5692	0.4	0.4
MALES	6265	45.7	46.1	3783	47.3	47.4	2482	43.6	44.4
FEMALES	7430	54.3	53.9	4220	52.7	52.6	3210	56.4	55.6
2. NATURAL INCREASE	34	2.5	2.4	-5	-0.6	-1.0	39	6.9	6.9
LIVE BIRTHS									
3. TOTAL	187	13.7	14.3	94	11.7	12.2	93	16.3	17.2
MALES	88	6.4	7.1	49	6.1	6.6	39	6.9	7.8
FEMALES	99	7.2	7.2	45	5.6	5.6	54	9.5	9.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	185	98.9	99.3	92	97.9	98.7	93	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.0	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	2	1.1	0.6	2	2.1	1.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	11	5.9	6.9	4	4.3	2.7	7	7.5	11.0
6. OUT OF WEDLOCK	62	33.2	30.5	8	8.5	6.3	54	58.1	54.1
7. OCCURRENCE									
TOTAL	410	0.4	0.5	212	0.3	0.3	198	0.6	0.7
TO RESIDENTS	167	40.7	40.4	75	35.4	36.7	92	46.5	44.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	10.6	13.5	1	10.5	6.3	1	10.6	20.4
9. FETAL DEATHS	2	10.6	6.2	1	10.5	2.1	1	10.6	10.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	50.0	83.3	0	0.0	0.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	1	50.0	16.7	1	100.0	100.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	50.0	50.0	1	100.0	100.0	0	0.0	40.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	7.3	0	0.0	4.2	0	0.0	10.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.2	0	0.0	4.2	0	0.0	2.1
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	10.4	0	0.0	8.5	0	0.0	12.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	153	11.2	12.0	99	12.4	13.2	54	9.5	10.3
MALES	80	12.8	14.0	51	13.5	15.1	29	11.7	12.4
FEMALES	73	9.8	10.2	48	11.4	11.5	25	7.8	8.6
14. AGE									
00-04 YEARS	0	0.0	2.6	0	0.0	2.4	0	0.0	2.8
05-14 YEARS	2	1.0	0.4	1	1.0	0.2	1	1.0	0.6
15-24 YEARS	5	2.7	2.2	2	2.1	2.1	3	3.4	2.3
25-34 YEARS	2	1.0	1.7	0	0.0	1.4	2	2.2	2.1
35-44 YEARS	3	1.6	2.0	3	2.8	1.0	0	0.0	3.7
45-54 YEARS	7	5.2	5.6	3	3.2	4.2	4	9.6	8.7
55-64 YEARS	18	12.1	16.4	10	9.5	15.3	8	18.1	18.8
65 AND OVER	116	50.7	53.7	80	51.5	54.1	36	49.0	52.9
15. PLACE OF DEATH									
HOSPITAL	110	71.9	76.7	72	72.7	77.3	38	70.4	75.8
OTHER INSTITUTION	22	14.4	10.9	14	14.1	10.0	8	14.8	12.5
HOME OR NON-INSTITUTION	21	13.7	12.4	13	13.1	12.7	8	14.8	11.8
16. OCCURRENCE									
TOTAL	220	0.4	0.4	128	0.3	0.3	92	0.6	0.7
TO RESIDENTS	123	55.9	57.5	73	57.0	58.3	50	54.3	56.1
OTHER EVENTS									
17. MARRIAGES	116	8.5	7.4						
18. DIVORCES AND ANNULMENTS	54	3.9	3.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CLAY COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	7274	0.1	0.1	7230	0.1	0.1	44	0.0	0.0
MALES	3608	49.6	49.6	3589	49.6	49.6	19	43.2	44.1
FEMALES	3666	50.4	50.4	3641	50.4	50.4	25	56.8	55.9
2. NATURAL INCREASE	1	0.1	0.1	1	0.1	-0.1	0	0.0	25.2
LIVE BIRTHS									
3. TOTAL	72	9.9	10.3	71	9.8	10.2	1	22.7	37.8
MALES	35	4.8	5.4	35	4.8	5.3	0	0.0	21.0
FEMALES	37	5.1	4.9	36	5.0	4.8	1	22.7	16.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	72	100.0	97.8	71	100.0	97.8	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.1	0	0.0	1.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	4	5.6	5.1	3	4.2	5.0	1	100.0	11.1
6. OUT OF WEDLOCK	5	6.9	7.6	4	5.6	6.6	1	100.0	44.4
7. OCCURRENCE									
TOTAL	1	0.0	0.0	1	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0	0.0	57.1	0	0.0	57.1	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	0	0.0	8.1	0	0.0	8.3	0	0.0	0.0
9. FETAL DEATHS	0	0.0	2.7	0	0.0	2.8	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		
PERMITTED MIDWIFE	0		0.0	0		0.0	0		
OUT OF WEDLOCK	0		0.0	0		0.0	0		
10. NEONATAL (UNDER 28 DAYS)	0	0.0	5.4	0	0.0	5.5	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.7	0	0.0	2.8	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	8.1	0	0.0	8.3	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	71	9.8	10.3	70	9.7	10.3	1	22.7	12.6
MALES	39	10.8	11.3	38	10.6	11.3	1	52.6	9.5
FEMALES	32	8.7	9.3	32	8.8	9.2	0	0.0	15.0
14. AGE									
00-04 YEARS	0	0.0	1.9	0	0.0	1.9	0	0.0	0.0
05-14 YEARS	2	2.1	0.4	2	2.1	0.4	0	0.0	0.0
15-24 YEARS	0	0.0	1.1	0	0.0	1.1	0	0.0	0.0
25-34 YEARS	1	0.9	0.8	1	0.9	0.8	0	0.0	0.0
35-44 YEARS	2	1.9	1.9	2	2.0	1.9	0	0.0	0.0
45-54 YEARS	4	5.5	6.0	3	4.2	5.7	1	200.0	45.5
55-64 YEARS	6	7.4	10.7	6	7.5	10.7	0	0.0	0.0
65 AND OVER	56	40.6	42.6	56	40.8	42.5	0	0.0	45.5
15. PLACE OF DEATH									
HOSPITAL	54	76.1	69.0	53	75.7	69.0	1	100.0	66.7
OTHER INSTITUTION	10	14.1	14.7	10	14.3	14.5	0	0.0	33.3
HOME OR NON-INSTITUTION	7	9.9	16.3	7	10.0	16.4	0	0.0	0.0
16. OCCURRENCE									
TOTAL	8	0.0	0.0	8	0.0	0.0	0	0.0	0.0
TO RESIDENTS	7	87.5	90.0	7	87.5	90.0	0		
OTHER EVENTS									
17. MARRIAGES	53	7.3	7.5						
18. DIVORCES AND ANNULMENTS	25	3.4	2.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CLEVELAND COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	87117	1.3	1.4	69041	1.4	1.4	18076	1.2	1.2
MALES	41475	47.6	47.8	33157	48.0	48.1	8318	46.0	46.5
FEMALES	45642	52.4	52.2	35884	52.0	51.9	9758	54.0	53.5
2. NATURAL INCREASE	453	5.2	4.3	177	2.6	2.6	276	15.3	10.8
LIVE BIRTHS									
3. TOTAL	1297	14.9	13.6	858	12.4	12.0	439	24.3	19.6
MALES	667	7.7	7.1	442	6.4	6.3	225	12.4	9.9
FEMALES	630	7.2	6.5	416	6.0	5.6	214	11.8	9.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1294	99.8	99.5	855	99.7	99.4	439	100.0	99.9
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.1	0.1	0	0.0	0.1
#CERTIFIED NURSE MIDWIFE	1	0.1	0.3	1	0.1	0.4	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	115	8.9	8.8	61	7.1	7.1	54	12.3	12.7
6. OUT OF WEDLOCK	406	31.3	28.8	129	15.0	12.6	277	63.1	65.8
7. OCCURRENCE									
TOTAL	1361	1.4	1.4	935	1.4	1.5	426	1.3	1.2
TO RESIDENTS	1110	81.6	78.1	714	76.4	73.3	396	93.0	90.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	23	17.6	18.5	17	19.6	16.4	6	13.5	23.4
9. FETAL DEATHS	13	9.9	9.5	8	9.2	9.3	5	11.3	10.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	13	100.0	98.2	8	100.0	97.4	5	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	38.5	33.9	1	12.5	21.1	4	80.0	61.1
10. NEONATAL (UNDER 28 DAYS)	10	7.7	9.1	9	10.5	7.2	1	2.3	13.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	9	7.0	6.7	3	3.5	4.7	6	13.7	11.4
12. INFANT DEATHS (UNDER 1 YEAR)	19	14.6	15.8	12	14.0	11.8	7	15.9	24.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	844	9.7	9.2	681	9.9	9.4	163	9.0	8.8
MALES	458	11.0	10.3	374	11.3	10.3	84	10.1	10.3
FEMALES	386	8.5	8.2	307	8.6	8.5	79	8.1	7.5
14. AGE									
00-04 YEARS	25	4.4	3.9	14	3.3	2.8	11	7.6	6.9
05-14 YEARS	5	0.4	0.3	5	0.6	0.4	0	0.0	0.2
15-24 YEARS	9	0.7	1.1	6	0.6	1.0	3	0.9	1.1
25-34 YEARS	19	1.4	1.3	13	1.2	1.2	6	2.0	1.8
35-44 YEARS	34	2.7	2.5	20	2.0	2.0	14	5.8	5.0
45-54 YEARS	53	5.6	6.1	44	5.6	5.4	9	5.9	10.2
55-64 YEARS	112	13.5	14.3	85	12.0	12.7	27	22.5	22.9
65 AND OVER	587	51.6	49.3	494	50.6	48.4	93	57.8	54.2
15. PLACE OF DEATH									
HOSPITAL	540	64.0	66.1	431	63.3	65.0	109	66.9	70.5
OTHER INSTITUTION	132	15.6	15.3	117	17.2	16.7	15	9.2	9.9
HOME OR NON-INSTITUTION	172	20.4	18.6	133	19.5	18.3	39	23.9	19.6
16. OCCURRENCE									
TOTAL	891	1.5	1.5	724	1.7	1.6	167	1.2	1.2
TO RESIDENTS	700	78.6	78.9	559	77.2	77.4	141	84.4	85.4
OTHER EVENTS									
17. MARRIAGES	523	6.0	5.6						
18. DIVORCES AND ANNULMENTS	388	4.5	4.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

COLUMBUS COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	52562	0.8	0.8	35574	0.7	0.7	16988	1.1	1.1
MALES	24913	47.4	47.6	16999	47.8	47.9	7914	46.6	47.1
FEMALES	27649	52.6	52.4	18575	52.2	52.1	9074	53.4	52.9
2. NATURAL INCREASE	118	2.2	4.1	-14	-0.4	1.5	132	7.8	9.2
LIVE BIRTHS									
3. TOTAL	694	13.2	14.2	364	10.2	11.6	330	19.4	19.4
MALES	359	6.8	7.3	191	5.4	5.9	168	9.9	10.1
FEMALES	335	6.4	6.9	173	4.9	5.7	162	9.5	9.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	648	93.4	87.8	347	95.3	91.4	301	91.2	83.4
PHYSICIAN NOT IN HOSPITAL	4	0.6	0.4	0	0.0	0.1	4	1.2	0.7
#CERTIFIED NURSE MIDWIFE	42	6.1	11.8	17	4.7	8.4	25	7.6	15.9
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	59	8.5	8.4	25	6.9	6.0	34	10.3	11.4
6. OUT OF WEDLOCK	244	35.2	31.2	52	14.3	10.9	192	58.2	56.0
7. OCCURRENCE									
TOTAL	594	0.6	0.7	311	0.5	0.6	283	0.9	1.0
TO RESIDENTS	537	90.4	90.3	267	85.9	87.6	270	95.4	93.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	14.3	17.1	4	10.9	13.6	6	18.0	21.3
9. FETAL DEATHS	6	8.6	10.7	2	5.5	8.3	4	12.0	13.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	92.5	2	100.0	82.4	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	2.5	0	0.0	5.9	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	83.3	62.5	1	50.0	35.3	4	100.0	82.6
10. NEONATAL (UNDER 28 DAYS)	4	5.8	6.5	2	5.5	5.4	2	6.1	7.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	5.8	5.7	0	0.0	3.0	4	12.2	9.1
12. INFANT DEATHS (UNDER 1 YEAR)	8	11.5	12.1	2	5.5	8.3	6	18.2	16.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	576	11.0	10.1	378	10.6	10.1	198	11.7	10.2
MALES	306	12.3	11.5	197	11.6	11.3	109	13.8	11.9
FEMALES	270	9.8	8.8	181	9.7	8.9	89	9.8	8.7
14. AGE									
00-04 YEARS	11	3.0	3.2	3	1.3	2.1	8	5.7	4.9
05-14 YEARS	4	0.5	0.2	1	0.2	0.1	3	1.0	0.4
15-24 YEARS	11	1.4	1.3	6	1.2	1.3	5	1.8	1.3
25-34 YEARS	15	1.9	1.5	6	1.1	0.9	9	3.2	2.7
35-44 YEARS	15	2.0	2.8	7	1.3	2.0	8	3.7	4.7
45-54 YEARS	36	6.3	6.4	24	5.5	6.2	12	8.6	7.3
55-64 YEARS	97	19.5	17.1	67	18.3	16.2	30	22.8	19.3
65 AND OVER	387	57.2	54.0	264	54.8	52.9	123	63.1	56.7
15. PLACE OF DEATH									
HOSPITAL	385	66.8	68.9	245	64.8	69.6	140	70.7	67.5
OTHER INSTITUTION	80	13.9	11.0	57	15.1	11.1	23	11.6	10.9
HOME OR NON-INSTITUTION	111	19.3	20.1	76	20.1	19.3	35	17.7	21.6
16. OCCURRENCE									
TOTAL	453	0.8	0.7	299	0.7	0.6	154	1.1	1.0
TO RESIDENTS	409	90.3	89.7	267	89.3	89.8	142	92.2	89.4
OTHER EVENTS									
17. MARRIAGES	255	4.9	4.7						
18. DIVORCES AND ANNULMENTS	227	4.3	3.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CRAVEN COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	81589	1.3	1.3	57600	1.2	1.2	23989	1.5	1.5
MALES	41411	50.8	51.0	30019	52.1	52.3	11392	47.5	48.1
FEMALES	40178	49.2	49.0	27581	47.9	47.7	12597	52.5	51.9
2. NATURAL INCREASE	1026	12.6	13.1	672	11.7	13.1	354	14.8	13.0
LIVE BIRTHS									
3. TOTAL	1623	19.9	20.0	1092	19.0	20.0	531	22.1	19.8
MALES	785	9.6	10.0	522	9.1	10.0	263	11.0	10.1
FEMALES	838	10.3	9.9	570	9.9	10.0	268	11.2	9.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1489	91.7	91.3	983	90.0	90.8	506	95.3	92.7
PHYSICIAN NOT IN HOSPITAL	21	1.3	1.0	18	1.6	1.3	3	0.6	0.3
#CERTIFIED NURSE MIDWIFE	112	6.9	7.3	90	8.2	7.6	22	4.1	6.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	118	7.3	7.2	55	5.0	5.3	63	11.9	11.8
6. OUT OF WEDLOCK	287	17.7	15.6	82	7.5	6.5	205	38.6	37.5
7. OCCURRENCE									
TOTAL	1973	2.0	2.0	1384	2.1	2.1	589	1.9	1.8
TO RESIDENTS	1514	76.7	78.0	1043	75.4	77.5	471	80.0	79.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	28	17.1	14.5	9	8.2	10.5	19	35.1	24.1
9. FETAL DEATHS	15	9.2	6.5	5	4.6	4.8	10	18.5	10.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	15	100.0	96.2	5	100.0	100.0	10	100.0	92.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.9	0	0.0	0.0	0	0.0	4.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	6.7	23.1	0	0.0	14.8	1	10.0	32.0
10. NEONATAL (UNDER 28 DAYS)	13	8.0	8.1	4	3.7	5.7	9	16.9	13.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	6	3.7	3.6	5	4.6	3.1	1	1.9	4.8
12. INFANT DEATHS (UNDER 1 YEAR)	19	11.7	11.6	9	8.2	8.7	10	18.8	18.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	597	7.3	6.9	420	7.3	5.9	177	7.4	6.8
MALES	290	7.0	7.0	195	6.5	6.8	95	8.3	7.6
FEMALES	307	7.6	6.7	225	8.2	6.9	82	6.5	6.1
14. AGE									
00-04 YEARS	25	3.4	3.0	12	2.4	2.5	13	5.5	4.1
05-14 YEARS	3	0.2	0.3	3	0.4	0.2	0	0.0	0.4
15-24 YEARS	5	0.3	0.8	2	0.2	0.9	3	0.6	0.6
25-34 YEARS	19	1.3	1.1	11	1.1	1.0	8	2.0	1.4
35-44 YEARS	24	2.3	1.8	15	2.0	1.7	9	3.2	2.1
45-54 YEARS	30	4.3	5.0	15	2.8	4.5	15	8.9	6.4
55-64 YEARS	85	13.1	14.1	54	11.2	12.8	31	18.7	17.8
65 AND OVER	406	52.9	49.8	308	55.7	51.1	98	45.7	46.7
15. PLACE OF DEATH									
HOSPITAL	408	68.3	68.1	294	70.0	67.5	114	64.4	69.5
OTHER INSTITUTION	67	11.2	13.3	47	11.2	14.0	20	11.3	11.8
HOME OR NON-INSTITUTION	122	20.4	18.6	79	18.8	18.6	43	24.3	18.7
16. OCCURRENCE									
TOTAL	690	1.2	1.2	482	1.1	1.1	208	1.5	1.4
TO RESIDENTS	506	73.3	71.2	360	74.7	71.3	146	70.2	70.9
OTHER EVENTS									
17. MARRIAGES	803	9.8	10.4						
18. DIVORCES AND ANNULMENTS	510	6.3	5.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CUMBERLAND COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	254615	3.9	4.0	152682	3.1	3.2	101933	6.5	6.5
MALES	130914	51.4	51.8	79945	52.4	52.6	50969	50.0	50.7
FEMALES	123701	48.6	48.2	72737	47.6	47.4	50964	50.0	49.3
2. NATURAL INCREASE	4108	16.1	15.3	2426	15.9	15.1	1682	16.5	15.6
LIVE BIRTHS									
3. TOTAL	5670	22.3	21.1	3429	22.5	21.3	2241	22.0	20.8
MALES	2903	11.4	10.8	1770	11.6	10.9	1133	11.1	10.6
FEMALES	2767	10.9	10.3	1659	10.9	10.4	1108	10.9	10.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	5644	99.5	99.5	3411	99.5	99.4	2233	99.6	99.6
PHYSICIAN NOT IN HOSPITAL	8	0.1	0.1	5	0.1	0.1	3	0.1	0.1
#CERTIFIED NURSE MIDWIFE	6	0.1	0.2	6	0.2	0.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	443	7.8	7.5	176	5.1	5.5	267	11.9	10.8
6. OUT OF WEDLOCK	1145	20.2	17.9	301	8.8	7.6	844	37.7	34.1
7. OCCURRENCE									
TOTAL	6501	6.6	6.6	3810	5.8	5.8	2691	8.5	8.3
TO RESIDENTS	5482	84.3	85.4	3304	86.7	86.3	2178	80.9	83.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	110	19.2	17.1	45	13.0	14.0	65	28.7	22.0
9. FETAL DEATHS	48	8.4	8.4	23	6.7	6.7	25	11.0	11.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	47	97.9	98.3	23	100.0	100.0	24	96.0	96.6
PHYSICIAN NOT IN HOSPITAL	1	2.1	0.9	0	0.0	0.0	1	4.0	1.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	11	22.9	24.9	3	13.0	10.7	8	32.0	38.5
10. NEONATAL (UNDER 28 DAYS)	62	10.9	8.8	22	6.4	7.3	40	17.8	11.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	24	4.3	4.2	16	4.7	3.8	8	3.6	4.9
12. INFANT DEATHS (UNDER 1 YEAR)	86	15.2	12.9	38	11.1	11.0	48	21.4	16.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1562	6.1	5.8	1003	6.6	6.2	559	5.5	5.2
MALES	854	6.5	6.3	538	6.7	6.6	316	6.2	5.7
FEMALES	708	5.7	5.4	465	6.4	5.8	243	4.8	4.7
14. AGE									
00-04 YEARS	93	4.4	3.7	42	3.5	3.4	51	5.5	4.1
05-14 YEARS	4	0.1	0.2	2	0.1	0.2	2	0.1	0.2
15-24 YEARS	42	0.7	1.1	25	0.8	1.3	17	0.7	0.7
25-34 YEARS	78	1.6	1.4	34	1.2	1.1	44	2.2	1.8
35-44 YEARS	90	2.6	2.5	51	2.4	2.1	39	3.0	3.3
45-54 YEARS	137	6.4	6.4	81	5.7	5.6	56	7.8	8.1
55-64 YEARS	286	17.5	16.7	201	17.0	15.3	85	18.6	20.6
65 AND OVER	832	54.8	55.2	567	52.6	54.2	265	60.3	57.7
15. PLACE OF DEATH									
HOSPITAL	1034	66.2	63.3	640	63.8	61.9	394	70.5	65.9
OTHER INSTITUTION	271	17.3	19.6	196	19.5	21.3	75	13.4	16.5
HOME OR NON-INSTITUTION	257	16.5	17.1	167	16.7	16.8	90	16.1	17.6
16. OCCURRENCE									
TOTAL	1922	3.3	3.3	1197	2.7	2.7	725	5.1	5.0
TO RESIDENTS	1346	70.0	71.2	857	71.6	72.9	489	67.4	68.4
OTHER EVENTS									
17. MARRIAGES	1790	7.0	7.4						
18. DIVORCES AND ANNULMENTS	1846	7.3	6.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CURRITUCK COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	13987	0.2	0.2	12367	0.3	0.2	1620	0.1	0.1
MALES	7139	51.0	51.1	6323	51.1	51.1	816	50.4	51.1
FEMALES	6848	49.0	48.9	6044	48.9	48.9	804	49.6	48.9
2. NATURAL INCREASE	42	3.0	4.4	34	2.7	4.4	8	4.9	4.6
LIVE BIRTHS									
3. TOTAL	195	13.9	14.4	166	13.4	14.1	29	17.9	16.6
MALES	92	6.6	7.5	75	6.1	7.3	17	10.5	8.8
FEMALES	103	7.4	6.9	91	7.4	6.8	12	7.4	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	186	95.4	92.4	157	94.6	91.5	29	100.0	97.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	8	4.1	7.0	8	4.8	8.0	0	0.0	1.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	16	8.2	6.1	14	8.4	5.5	2	6.9	9.7
6. OUT OF WEDLOCK	48	24.6	17.1	36	21.7	12.5	12	41.4	43.1
7. OCCURRENCE									
TOTAL	1	0.0	0.0	1	0.0	0.0	0	0.0	0.0
TO RESIDENTS	1	100.0	83.3	1	100.0	80.0	0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	10.3	14.4	2	12.0	12.1	0	0.0	27.4
9. FETAL DEATHS	0	0.0	6.2	0	0.0	4.8	0	0.0	13.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		0.0
PERMITTED MIDWIFE	0		0.0	0		0.0	0		0.0
OUT OF WEDLOCK	0		16.7	0		0.0	0		50.0
10. NEONATAL (UNDER 28 DAYS)	2	10.3	8.3	2	12.0	7.3	0	0.0	13.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	8.4	0	0.0	7.4	0	0.0	14.1
12. INFANT DEATHS (UNDER 1 YEAR)	2	10.3	16.6	2	12.0	14.6	0	0.0	27.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	153	10.9	10.0	132	10.7	9.7	21	13.0	12.0
MALES	81	11.3	11.1	70	11.1	10.8	11	13.5	13.3
FEMALES	72	10.5	8.8	62	10.3	8.6	10	12.4	10.6
14. AGE									
00-04 YEARS	4	4.1	4.1	3	3.5	3.5	1	8.4	7.6
05-14 YEARS	0	0.0	0.3	0	0.0	0.3	0	0.0	0.0
15-24 YEARS	2	0.9	0.9	0	0.0	0.8	2	7.9	2.1
25-34 YEARS	4	1.8	1.9	4	2.0	1.5	0	0.0	3.8
35-44 YEARS	4	2.1	2.6	4	2.3	2.4	0	0.0	4.4
45-54 YEARS	15	10.1	7.4	12	8.9	6.6	3	22.7	14.7
55-64 YEARS	27	19.0	18.7	24	19.0	18.2	3	19.0	22.0
65 AND OVER	97	57.3	51.6	85	58.1	52.2	12	52.2	48.1
15. PLACE OF DEATH									
HOSPITAL	96	62.7	62.4	81	61.4	62.6	15	71.4	61.5
OTHER INSTITUTION	24	15.7	13.5	21	15.9	13.8	3	14.3	11.5
HOME OR NON-INSTITUTION	33	21.6	24.1	30	22.7	23.6	3	14.3	26.9
16. OCCURRENCE									
TOTAL	44	0.1	0.1	40	0.1	0.1	4	0.0	0.1
TO RESIDENTS	39	88.6	88.2	35	87.5	87.5	4	100.0	91.7
OTHER EVENTS									
17. MARRIAGES	108	7.7	6.1						
18. DIVORCES AND ANNULMENTS	46	3.3	2.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

DARE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	21460	0.3	0.3	20085	0.4	0.4	1375	0.1	0.1
MALES	10656	49.7	49.7	10028	49.9	49.9	628	45.7	46.0
FEMALES	10804	50.3	50.3	10057	50.1	50.1	747	54.3	54.0
2. NATURAL INCREASE	163	7.6	7.1	149	7.4	7.3	14	10.2	4.2
LIVE BIRTHS									
3. TOTAL	334	15.6	15.2	308	15.3	15.3	26	18.9	13.6
MALES	171	8.0	7.8	159	7.9	7.9	12	8.7	6.3
FEMALES	163	7.6	7.5	149	7.4	7.5	14	10.2	7.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	298	89.2	84.6	273	88.6	83.9	25	96.2	96.4
PHYSICIAN NOT IN HOSPITAL	1	0.3	0.6	1	0.3	0.6	0	0.0	1.2
#CERTIFIED NURSE MIDWIFE	31	9.3	14.3	31	10.1	15.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	18	5.4	5.0	14	4.5	4.2	4	15.4	17.9
6. OUT OF WEDLOCK	55	16.5	14.5	38	12.3	11.8	17	65.4	57.1
7. OCCURRENCE									
TOTAL	6	0.0	0.0	5	0.0	0.0	1	0.0	0.0
TO RESIDENTS	5	83.3	89.5	4	80.0	87.5	1	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	17.8	12.5	5	16.1	10.3	1	37.0	46.5
9. FETAL DEATHS	3	8.9	9.0	2	6.5	8.1	1	37.0	23.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	66.7	92.3	1	50.0	90.9	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	0	0.0	23.1	0	0.0	18.2	0	0.0	50.0
10. NEONATAL (UNDER 28 DAYS)	3	9.0	3.5	3	9.7	2.2	0	0.0	23.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.5	0	0.0	3.0	0	0.0	12.2
12. INFANT DEATHS (UNDER 1 YEAR)	3	9.0	7.0	3	9.7	5.2	0	0.0	35.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	171	8.0	8.1	159	7.9	8.0	12	8.7	9.4
MALES	93	8.7	9.0	87	8.7	8.9	6	9.6	9.9
FEMALES	78	7.2	7.3	72	7.2	7.1	6	8.0	9.0
14. AGE									
00-04 YEARS	4	3.0	2.6	4	3.3	2.3	0	0.0	7.3
05-14 YEARS	1	0.4	0.4	1	0.4	0.5	0	0.0	0.0
15-24 YEARS	1	0.3	1.0	1	0.4	1.0	0	0.0	0.9
25-34 YEARS	3	0.8	1.2	3	0.9	1.1	0	0.0	1.8
35-44 YEARS	5	1.6	1.6	4	1.4	1.5	1	5.5	2.7
45-54 YEARS	3	1.3	3.1	2	1.0	2.7	1	7.1	7.8
55-64 YEARS	27	11.0	12.2	27	11.6	11.9	0	0.0	16.7
65 AND OVER	127	41.4	40.6	117	40.2	40.0	10	63.7	52.1
15. PLACE OF DEATH									
HOSPITAL	95	55.6	49.4	86	54.1	48.8	9	75.0	56.9
OTHER INSTITUTION	40	23.4	27.2	37	23.3	26.9	3	25.0	31.0
HOME OR NON-INSTITUTION	36	21.1	23.4	36	22.6	24.3	0	0.0	12.1
16. OCCURRENCE									
TOTAL	109	0.2	0.2	99	0.2	0.2	10	0.1	0.1
TO RESIDENTS	71	65.1	62.7	68	68.7	67.0	3	30.0	33.8
OTHER EVENTS									
17. MARRIAGES	323	15.1	15.4						
18. DIVORCES AND ANNULMENTS	139	6.5	4.1						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

DAVIDSON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	124296	1.9	1.9	111466	2.3	2.3	12830	0.8	0.8
MALES	60072	48.3	48.5	54059	48.5	48.6	6013	46.9	47.4
FEMALES	64224	51.7	51.5	57407	51.5	51.4	6817	53.1	52.6
2. NATURAL INCREASE	676	5.4	5.1	566	5.1	4.6	110	8.6	9.2
LIVE BIRTHS									
3. TOTAL	1639	13.2	13.1	1406	12.6	12.6	233	18.2	17.6
MALES	828	6.7	6.7	704	6.3	6.4	124	9.7	9.2
FEMALES	811	6.5	6.5	702	6.3	6.2	109	8.5	8.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1618	98.7	98.1	1387	98.6	98.1	231	99.1	98.0
PHYSICIAN NOT IN HOSPITAL	2	0.1	0.0	1	0.1	0.0	1	0.4	0.1
#CERTIFIED NURSE MIDWIFE	14	0.9	1.3	14	1.0	1.4	0	0.0	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	144	8.8	7.8	114	8.1	7.2	30	12.9	11.4
6. OUT OF WEDLOCK	397	24.2	20.5	236	16.8	13.7	161	69.1	62.0
7. OCCURRENCE									
TOTAL	1118	1.1	1.2	907	1.4	1.4	211	0.7	0.7
TO RESIDENTS	992	88.7	89.0	798	88.0	89.7	194	91.9	86.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	30	18.1	15.0	19	13.4	13.0	11	46.0	27.4
9. FETAL DEATHS	17	10.3	7.9	11	7.8	6.7	6	25.1	15.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	15	88.2	95.2	11	100.0	97.8	4	66.7	88.2
PHYSICIAN NOT IN HOSPITAL	1	5.9	1.6	0	0.0	0.0	1	16.7	5.9
#CERTIFIED NURSE MIDWIFE	0	0.0	1.6	0	0.0	2.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	8	47.1	38.1	2	18.2	23.9	6	100.0	76.5
10. NEONATAL (UNDER 28 DAYS)	13	7.9	7.2	8	5.7	6.3	5	21.5	12.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	1.2	3.7	2	1.4	3.7	0	0.0	3.6
12. INFANT DEATHS (UNDER 1 YEAR)	15	9.2	10.9	10	7.1	10.0	5	21.5	16.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	963	7.7	8.1	840	7.5	8.0	123	9.6	8.5
MALES	519	8.6	9.1	447	8.3	9.0	72	12.0	10.0
FEMALES	444	6.9	7.1	393	6.8	7.1	51	7.5	7.0
14. AGE									
00-04 YEARS	16	2.0	2.8	11	1.6	2.6	5	4.8	3.8
05-14 YEARS	5	0.3	0.3	3	0.2	0.3	2	0.9	0.2
15-24 YEARS	16	0.8	1.2	10	0.6	1.1	6	2.5	2.0
25-34 YEARS	22	1.1	1.3	16	0.9	1.2	6	2.7	2.1
35-44 YEARS	34	1.8	1.8	24	1.4	1.5	10	6.0	4.4
45-54 YEARS	64	4.5	4.9	53	4.1	4.6	11	9.6	8.5
55-64 YEARS	168	13.9	13.3	146	13.1	12.7	22	23.8	20.6
65 AND OVER	638	43.7	47.2	577	42.9	46.7	61	53.2	52.4
15. PLACE OF DEATH									
HOSPITAL	625	64.9	64.9	530	63.1	64.4	95	77.2	68.6
OTHER INSTITUTION	171	17.8	18.2	157	18.7	18.2	14	11.4	18.3
HOME OR NON-INSTITUTION	167	17.3	16.9	153	18.2	17.4	14	11.4	13.1
16. OCCURRENCE									
TOTAL	689	1.2	1.3	602	1.4	1.5	87	0.6	0.6
TO RESIDENTS	611	88.7	90.1	533	88.5	90.1	78	89.7	89.7
OTHER EVENTS									
17. MARRIAGES	948	7.6	7.8						
18. DIVORCES AND ANNULMENTS	419	3.4	3.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

DAVIE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	27846	0.4	0.4	25161	0.5	0.5	2685	0.2	0.2
MALES	13690	49.2	49.2	12401	49.3	49.3	1289	48.0	48.4
FEMALES	14156	50.8	50.8	12760	50.7	50.7	1396	52.0	51.6
2. NATURAL INCREASE	78	2.8	2.7	40	1.6	2.3	38	14.2	6.9
LIVE BIRTHS									
3. TOTAL	328	11.8	11.0	269	10.7	10.4	59	22.0	16.7
MALES	168	6.0	5.8	140	5.6	5.5	28	10.4	9.1
FEMALES	160	5.7	5.2	129	5.1	4.9	31	11.5	7.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	321	97.9	98.4	263	97.8	98.3	58	98.3	99.1
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.4
#CERTIFIED NURSE MIDWIFE	5	1.5	1.2	4	1.5	1.3	1	1.7	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	23	7.0	6.8	14	5.2	5.8	9	15.3	12.5
6. OUT OF WEDLOCK	73	22.3	17.3	31	11.5	10.5	42	71.2	55.6
7. OCCURRENCE									
TOTAL	3	0.0	0.0	2	0.0	0.0	1	0.0	0.0
TO RESIDENTS	3	100.0	89.7	2	100.0	89.7	1	100.0	89.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	12.1	16.2	2	7.4	13.0	2	33.3	34.0
9. FETAL DEATHS	3	9.1	8.4	2	7.4	7.6	1	16.7	12.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	92.3	2	100.0	100.0	1	100.0	66.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	33.3	30.8	1	50.0	30.0	0	0.0	33.3
10. NEONATAL (UNDER 28 DAYS)	1	3.0	7.8	0	0.0	5.4	1	16.9	21.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.0	0	0.0	2.3	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	1	3.0	9.8	0	0.0	7.7	1	16.9	21.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	250	9.0	8.3	229	9.1	8.1	21	7.8	9.8
MALES	125	9.1	9.4	114	9.2	9.1	11	8.5	11.9
FEMALES	125	8.8	7.2	115	9.0	7.2	10	7.2	7.8
14. AGE									
00-04 YEARS	3	1.7	2.3	2	1.3	1.9	1	6.0	6.7
05-14 YEARS	1	0.3	0.3	1	0.3	0.3	0	0.0	0.0
15-24 YEARS	5	1.2	1.2	3	0.8	0.9	2	4.0	2.9
25-34 YEARS	3	0.7	1.1	3	0.7	1.0	0	0.0	1.6
35-44 YEARS	8	1.8	2.0	5	1.2	1.8	3	8.2	4.0
45-54 YEARS	9	2.8	4.0	8	2.7	3.7	1	3.5	7.1
55-64 YEARS	34	12.8	11.7	33	13.5	11.1	1	4.7	18.4
65 AND OVER	187	60.2	54.4	174	61.4	54.0	13	48.1	58.5
15. PLACE OF DEATH									
HOSPITAL	164	65.6	68.1	147	64.2	67.3	17	81.0	73.5
OTHER INSTITUTION	43	17.2	16.3	40	17.5	16.6	3	14.3	14.0
HOME OR NON-INSTITUTION	43	17.2	15.6	42	18.3	16.0	1	4.8	12.5
16. OCCURRENCE									
TOTAL	161	0.3	0.3	146	0.3	0.3	15	0.1	0.1
TO RESIDENTS	142	88.2	87.0	128	87.7	86.8	14	93.3	88.3
OTHER EVENTS									
17. MARRIAGES	206	7.4	7.4						
18. DIVORCES AND ANNULMENTS	84	3.0	2.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

DUPLIN COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	41653	0.6	0.7	27610	0.6	0.6	14043	0.9	0.9
MALES	19746	47.4	47.6	13366	48.4	48.5	6380	45.4	45.9
FEMALES	21907	52.6	52.4	14244	51.6	51.5	7663	54.6	54.1
2. NATURAL INCREASE	135	3.2	3.2	61	2.2	2.0	74	5.3	5.5
LIVE BIRTHS									
3. TOTAL	601	14.4	13.8	358	13.0	12.1	243	17.3	16.9
MALES	309	7.4	7.1	184	6.7	6.3	125	8.9	8.6
FEMALES	292	7.0	6.7	174	6.3	5.9	118	8.4	8.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	599	99.7	99.5	357	99.7	99.8	242	99.6	99.1
PHYSICIAN NOT IN HOSPITAL	1	0.2	0.3	0	0.0	0.1	1	0.4	0.7
#CERTIFIED NURSE MIDWIFE	1	0.2	0.1	1	0.3	0.1	0	0.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	52	8.7	8.0	23	6.4	6.0	29	11.9	10.7
6. OUT OF WEDLOCK	183	30.4	28.5	44	12.3	8.7	139	57.2	55.7
7. OCCURRENCE									
TOTAL	394	0.4	0.4	203	0.3	0.3	191	0.6	0.6
TO RESIDENTS	357	90.6	91.8	177	87.2	88.8	180	94.2	94.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	18	29.2	20.6	9	24.7	13.7	9	35.9	30.0
9. FETAL DEATHS	15	24.4	13.4	7	19.2	8.4	8	31.9	20.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	14	93.3	94.9	7	100.0	100.0	7	87.5	92.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.6	0	0.0	0.0	0	0.0	4.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	46.7	56.4	1	14.3	14.3	6	75.0	80.0
10. NEONATAL (UNDER 28 DAYS)	3	5.0	7.3	2	5.6	5.4	1	4.1	9.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	6	10.0	5.6	1	2.8	2.4	5	20.7	10.0
12. INFANT DEATHS (UNDER 1 YEAR)	9	15.0	12.9	3	8.4	7.8	6	24.7	19.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	466	11.2	10.6	297	10.8	10.1	169	12.0	11.4
MALES	246	12.5	12.2	162	12.1	11.8	84	13.2	13.2
FEMALES	220	10.0	9.0	135	9.5	8.5	85	11.1	9.9
14. AGE									
00-04 YEARS	12	4.2	3.4	4	2.3	1.8	8	7.1	5.6
05-14 YEARS	5	0.8	0.5	2	0.5	0.4	3	1.2	0.7
15-24 YEARS	11	1.8	1.2	4	1.0	1.2	7	3.0	1.1
25-34 YEARS	9	1.4	1.5	4	0.9	1.2	5	2.3	2.1
35-44 YEARS	12	2.1	2.6	6	1.5	1.7	6	3.5	4.7
45-54 YEARS	25	5.7	6.5	14	4.3	4.9	11	9.2	10.6
55-64 YEARS	64	15.6	15.9	39	13.6	14.2	25	20.3	19.8
65 AND OVER	328	57.5	54.5	224	56.3	51.9	104	60.2	60.3
15. PLACE OF DEATH									
HOSPITAL	297	63.7	61.5	185	62.3	61.3	112	66.3	61.8
OTHER INSTITUTION	74	15.9	15.6	45	15.2	15.1	29	17.2	16.4
HOME OR NON-INSTITUTION	95	20.4	23.0	67	22.6	23.7	28	16.6	21.8
16. OCCURRENCE									
TOTAL	313	0.5	0.5	197	0.4	0.4	116	0.8	0.8
TO RESIDENTS	283	90.4	91.3	182	92.4	90.7	101	87.1	92.3
OTHER EVENTS									
17. MARRIAGES	323	7.8	7.3						
18. DIVORCES AND ANNULMENTS	105	2.5	3.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

DURHAM COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	171483	2.6	2.6	103270	2.1	2.1	68213	4.3	4.2
MALES	79331	46.3	46.5	48916	47.4	47.4	30415	44.6	44.9
FEMALES	92152	53.7	53.5	54354	52.6	52.6	37798	55.4	55.1
2. NATURAL INCREASE	1235	7.2	6.5	523	5.1	4.6	712	10.4	9.4
LIVE BIRTHS									
3. TOTAL	2715	15.8	15.1	1405	13.6	13.3	1310	19.2	17.7
MALES	1413	8.2	7.7	744	7.2	6.8	669	9.8	9.0
FEMALES	1302	7.6	7.4	661	6.4	6.5	641	9.4	8.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2560	94.3	95.0	1262	89.8	91.6	1298	99.1	98.9
PHYSICIAN NOT IN HOSPITAL	3	0.1	0.1	1	0.1	0.1	2	0.2	0.2
#CERTIFIED NURSE MIDWIFE	148	5.5	4.8	138	9.8	8.1	10	0.8	0.9
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	216	8.0	9.1	55	3.9	5.3	161	12.3	13.4
6. OUT OF WEDLOCK	860	31.7	29.3	114	8.1	7.5	746	56.9	54.4
7. OCCURRENCE									
TOTAL	4549	4.6	4.6	2550	3.9	3.8	1999	6.3	6.2
TO RESIDENTS	2541	55.9	56.0	1291	50.6	51.5	1250	62.5	61.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	44	16.1	18.1	13	9.2	12.2	31	23.4	24.8
9. FETAL DEATHS	20	7.3	9.4	7	5.0	6.3	13	9.8	13.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	19	95.0	97.5	6	85.7	97.6	13	100.0	97.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	5.0	0.8	1	14.3	2.4	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	9	45.0	39.5	2	28.6	11.9	7	53.8	54.5
10. NEONATAL (UNDER 28 DAYS)	24	8.8	8.7	6	4.3	6.0	18	13.7	11.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	6	2.2	3.7	1	0.7	2.1	5	3.9	5.6
12. INFANT DEATHS (UNDER 1 YEAR)	30	11.0	12.4	7	5.0	8.1	23	17.6	17.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1480	8.6	8.6	882	8.5	8.8	598	8.8	8.3
MALES	724	9.1	9.4	417	8.5	9.1	307	10.1	9.8
FEMALES	756	8.2	7.9	465	8.6	8.5	291	7.7	7.0
14. AGE									
00-04 YEARS	36	3.2	3.3	10	1.7	2.3	26	4.9	4.3
05-14 YEARS	4	0.2	0.2	2	0.2	0.2	2	0.2	0.3
15-24 YEARS	17	0.5	0.6	8	0.4	0.5	9	0.6	0.6
25-34 YEARS	27	0.8	1.2	8	0.4	0.8	19	1.4	1.9
35-44 YEARS	64	2.8	2.6	22	1.6	1.7	42	4.8	4.2
45-54 YEARS	91	5.7	5.9	41	3.9	4.5	50	9.4	8.8
55-64 YEARS	210	15.2	14.7	114	12.0	12.5	96	21.9	19.3
65 AND OVER	1031	51.6	52.1	677	49.1	50.9	354	57.2	54.8
15. PLACE OF DEATH									
HOSPITAL	865	58.4	57.9	487	55.2	54.7	378	63.2	63.1
OTHER INSTITUTION	285	19.3	20.8	201	22.8	23.8	84	14.0	16.0
HOME OR NON-INSTITUTION	330	22.3	21.3	194	22.0	21.4	136	22.7	20.9
16. OCCURRENCE									
TOTAL	2738	4.7	5.0	1767	4.0	4.4	971	6.9	6.8
TO RESIDENTS	1371	50.1	48.5	815	46.1	44.8	556	57.3	56.2
OTHER EVENTS									
17. MARRIAGES	1440	8.4	8.4						
18. DIVORCES AND ANNULMENTS	925	5.4	5.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

EDGECOMBE COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	59887	0.9	0.9	28286	0.6	0.6	31601	2.0	2.0
MALES	27395	45.7	46.1	13396	47.4	47.5	13999	44.3	44.9
FEMALES	32492	54.3	53.9	14890	52.6	52.5	17602	55.7	55.1
2. NATURAL INCREASE	285	4.8	5.2	3	0.1	1.3	282	8.9	8.7
LIVE BIRTHS									
3. TOTAL	915	15.3	15.0	311	11.0	11.3	604	19.1	18.2
MALES	457	7.6	7.6	157	5.6	5.8	300	9.5	9.2
FEMALES	458	7.6	7.4	154	5.4	5.5	304	9.6	9.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	909	99.3	99.7	311	100.0	99.8	598	99.0	99.6
PHYSICIAN NOT IN HOSPITAL	5	0.5	0.2	0	0.0	0.1	5	0.8	0.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	98	10.7	11.0	18	5.8	6.4	80	13.2	13.6
6. OUT OF WEDLOCK	448	49.0	45.2	45	14.5	10.8	403	66.7	64.3
7. OCCURRENCE									
TOTAL	676	0.7	0.5	210	0.3	0.2	466	1.5	1.1
TO RESIDENTS	629	93.0	90.6	189	90.0	88.5	440	94.4	91.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	15	16.3	20.2	4	12.7	10.7	11	18.1	25.5
9. FETAL DEATHS	7	7.6	10.3	3	9.6	6.9	4	6.6	12.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	7	100.0	97.8	3	100.0	100.0	4	100.0	97.1
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	57.1	56.5	0	0.0	9.1	4	100.0	71.4
10. NEONATAL (UNDER 28 DAYS)	8	8.7	10.0	1	3.2	3.8	7	11.6	13.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	8	8.8	5.5	3	9.7	4.5	5	8.4	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	16	17.5	15.4	4	12.9	8.3	12	19.9	19.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	630	10.5	9.8	308	10.9	10.0	322	10.2	9.6
MALES	336	12.3	11.4	148	11.0	10.8	188	13.4	11.9
FEMALES	294	9.0	8.4	160	10.7	9.3	134	7.6	7.7
14. AGE									
00-04 YEARS	17	3.8	3.4	4	2.3	2.0	13	4.8	4.3
05-14 YEARS	3	0.3	0.4	1	0.3	0.2	2	0.3	0.5
15-24 YEARS	14	1.5	1.2	3	0.8	1.1	11	2.0	1.3
25-34 YEARS	17	1.7	1.7	3	0.6	1.0	14	2.5	2.3
35-44 YEARS	36	4.2	3.6	7	1.6	1.9	29	6.9	5.3
45-54 YEARS	48	8.5	7.0	13	4.0	4.4	35	14.6	10.6
55-64 YEARS	88	16.5	17.1	38	12.3	13.9	50	22.5	21.3
65 AND OVER	407	56.3	54.0	239	58.4	52.0	168	53.6	56.5
15. PLACE OF DEATH									
HOSPITAL	422	67.0	68.1	191	62.0	67.4	231	71.7	68.8
OTHER INSTITUTION	100	15.9	14.4	66	21.4	16.6	34	10.6	12.4
HOME OR NON-INSTITUTION	108	17.1	17.4	51	16.6	16.0	57	17.7	18.8
16. OCCURRENCE									
TOTAL	410	0.7	0.7	218	0.5	0.5	192	1.4	1.5
TO RESIDENTS	361	88.0	84.7	192	88.1	84.0	169	88.0	85.4
OTHER EVENTS									
17. MARRIAGES	462	7.7	7.3						
18. DIVORCES AND ANNULMENTS	215	3.6	3.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

FORSYTH COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	266353	4.1	4.1	196439	4.0	4.0	69914	4.5	4.4
MALES	124812	46.9	47.0	93262	47.5	47.5	31550	45.1	45.5
FEMALES	141541	53.1	53.0	103177	52.5	52.5	38364	54.9	54.5
2. NATURAL INCREASE	1453	5.5	4.8	732	3.7	3.6	721	10.3	8.3
LIVE BIRTHS									
3. TOTAL	3855	14.5	13.5	2478	12.6	12.2	1377	19.7	17.4
MALES	1993	7.5	6.9	1268	6.5	6.2	725	10.4	8.9
FEMALES	1862	7.0	6.6	1210	6.2	6.0	652	9.3	8.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	3815	99.0	98.9	2443	98.6	98.5	1372	99.6	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	38	1.0	1.0	33	1.3	1.4	5	0.4	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	352	9.1	8.7	168	6.8	6.1	184	13.4	13.6
6. OUT OF WEDLOCK	1120	29.1	26.1	256	10.3	8.4	864	62.7	61.0
7. OCCURRENCE									
TOTAL	5353	5.5	5.5	3809	5.8	5.8	1544	4.9	4.7
TO RESIDENTS	3620	67.6	66.2	2268	59.5	58.8	1352	87.6	86.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	65	16.7	15.2	34	13.6	12.0	31	22.3	21.4
9. FETAL DEATHS	32	8.2	6.2	17	6.8	4.7	15	10.8	9.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	30	93.8	98.2	17	100.0	100.0	13	86.7	96.4
PHYSICIAN NOT IN HOSPITAL	1	3.1	0.9	0	0.0	0.0	1	6.7	1.8
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	13	40.6	38.2	1	5.9	3.6	12	80.0	72.7
10. NEONATAL (UNDER 28 DAYS)	33	8.6	9.0	17	6.9	7.3	16	11.6	12.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	19	5.0	4.0	5	2.0	2.2	14	10.3	7.5
12. INFANT DEATHS (UNDER 1 YEAR)	52	13.5	13.0	22	8.9	9.5	30	21.8	19.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	2402	9.0	8.7	1746	8.9	8.6	656	9.4	9.1
MALES	1230	9.9	9.6	883	9.5	9.3	347	11.0	10.4
FEMALES	1172	8.3	7.9	863	8.4	8.0	309	8.1	7.9
14. AGE									
00-04 YEARS	57	3.6	3.3	26	2.5	2.5	31	5.8	4.8
05-14 YEARS	6	0.2	0.2	5	0.2	0.3	1	0.1	0.1
15-24 YEARS	34	0.8	1.0	23	0.8	0.9	11	0.8	1.0
25-34 YEARS	56	1.2	1.1	32	0.9	0.9	24	1.9	1.7
35-44 YEARS	95	2.4	2.3	54	1.8	1.7	41	4.2	4.3
45-54 YEARS	142	4.9	5.3	92	4.0	4.3	50	8.5	8.9
55-64 YEARS	336	12.7	13.4	238	11.0	11.6	98	20.6	21.2
65 AND OVER	1676	51.1	50.3	1276	48.1	47.9	400	63.7	59.6
15. PLACE OF DEATH									
HOSPITAL	1512	62.9	64.7	1088	62.3	62.5	424	64.6	70.8
OTHER INSTITUTION	400	16.7	16.3	321	18.4	18.2	79	12.0	11.3
HOME OR NON-INSTITUTION	490	20.4	18.9	337	19.3	19.4	153	23.3	17.8
16. OCCURRENCE									
TOTAL	3620	6.2	6.2	2833	6.5	6.4	787	5.6	5.5
TO RESIDENTS	2246	62.0	62.7	1623	57.3	57.8	623	79.2	80.4
OTHER EVENTS									
17. MARRIAGES	2445	9.2	9.2						
18. DIVORCES AND ANNULMENTS	1694	6.4	6.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

FRANKLIN COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	35445	0.5	0.5	21332	0.4	0.4	14113	0.9	0.9
MALES	16842	47.5	47.8	10398	48.7	48.8	6444	45.7	46.2
FEMALES	18603	52.5	52.2	10934	51.3	51.2	7669	54.3	53.8
2. NATURAL INCREASE	147	4.1	3.8	81	3.8	2.2	66	4.7	6.1
LIVE BIRTHS									
3. TOTAL	498	14.0	13.4	290	13.6	12.1	208	14.7	15.2
MALES	234	6.6	6.7	137	6.4	6.0	97	6.9	7.7
FEMALES	264	7.4	6.7	153	7.2	6.2	111	7.9	7.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	493	99.0	98.7	287	99.0	98.4	206	99.0	99.1
PHYSICIAN NOT IN HOSPITAL	2	0.4	0.3	1	0.3	0.1	1	0.5	0.5
#CERTIFIED NURSE MIDWIFE	2	0.4	0.8	2	0.7	1.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	33	6.6	8.0	15	5.2	6.2	18	8.7	10.2
6. OUT OF WEDLOCK	149	29.9	30.1	28	9.7	8.0	121	58.2	56.1
7. OCCURRENCE									
TOTAL	11	0.0	0.0	2	0.0	0.0	9	0.0	0.1
TO RESIDENTS	10	90.9	90.8	2	100.0	91.4	8	88.9	90.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	12.0	19.7	1	3.4	13.8	5	23.9	26.5
9. FETAL DEATHS	1	2.0	10.9	0	0.0	6.5	1	4.8	16.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	0		100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	0	0.0	52.0	0		12.5	0	0.0	70.6
10. NEONATAL (UNDER 28 DAYS)	5	10.0	8.8	1	3.4	7.4	4	19.2	10.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	2.0	5.3	0	0.0	2.5	1	4.9	8.7
12. INFANT DEATHS (UNDER 1 YEAR)	6	12.0	14.1	1	3.4	9.8	5	24.0	19.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	351	9.9	9.6	209	9.8	9.9	142	10.1	9.1
MALES	172	10.2	10.9	98	9.4	10.8	74	11.5	10.9
FEMALES	179	9.6	8.4	111	10.2	9.1	68	8.9	7.5
14. AGE									
00-04 YEARS	7	3.0	3.1	2	1.6	2.2	5	4.8	4.1
05-14 YEARS	1	0.2	0.3	0	0.0	0.2	1	0.4	0.5
15-24 YEARS	10	1.8	1.4	6	2.0	1.4	4	1.6	1.5
25-34 YEARS	6	1.1	1.5	2	0.6	1.2	4	1.7	1.8
35-44 YEARS	14	2.8	2.4	4	1.3	1.4	10	5.1	4.0
45-54 YEARS	21	5.8	6.7	8	3.3	5.3	13	10.7	9.5
55-64 YEARS	40	11.7	13.3	24	10.5	12.2	16	14.0	15.5
65 AND OVER	252	48.4	45.9	163	45.5	44.5	89	54.5	49.0
15. PLACE OF DEATH									
HOSPITAL	231	65.8	65.4	144	68.9	67.7	87	61.3	61.7
OTHER INSTITUTION	56	16.0	15.1	33	15.8	15.0	23	16.2	15.3
HOME OR NON-INSTITUTION	64	18.2	19.5	32	15.3	17.3	32	22.5	23.0
16. OCCURRENCE									
TOTAL	230	0.4	0.4	146	0.3	0.3	84	0.6	0.6
TO RESIDENTS	205	89.1	89.6	129	88.4	88.6	76	90.5	91.3
OTHER EVENTS									
17. MARRIAGES	268	7.6	7.9						
18. DIVORCES AND ANNULMENTS	136	3.8	3.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GASTON COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	174194	2.7	2.7	151935	3.1	3.1	22259	1.4	1.4
MALES	82677	47.5	47.6	72646	47.8	47.9	10031	45.1	45.5
FEMALES	91517	52.5	52.4	79289	52.2	52.1	12228	54.9	54.5
2. NATURAL INCREASE	1040	6.0	5.5	765	5.0	4.6	275	12.4	11.5
LIVE BIRTHS									
3. TOTAL	2680	15.4	14.4	2187	14.4	13.4	493	22.1	20.9
MALES	1345	7.7	7.4	1099	7.2	6.9	246	11.1	10.6
FEMALES	1335	7.7	7.0	1088	7.2	6.5	247	11.1	10.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2667	99.5	98.1	2179	99.6	98.5	488	99.0	96.7
PHYSICIAN NOT IN HOSPITAL	3	0.1	0.1	0	0.0	0.1	3	0.6	0.3
#CERTIFIED NURSE MIDWIFE	6	0.2	1.6	6	0.3	1.3	0	0.0	2.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	220	8.2	7.8	153	7.0	6.7	67	13.6	12.7
6. OUT OF WEDLOCK	733	27.4	24.7	399	18.2	15.7	334	67.7	63.3
7. OCCURRENCE									
TOTAL	2209	2.3	2.2	1777	2.7	2.6	432	1.4	1.4
TO RESIDENTS	1936	87.6	87.8	1539	86.6	86.8	397	91.9	91.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	44	16.3	19.4	32	14.5	17.6	12	24.0	27.1
9. FETAL DEATHS	20	7.4	9.7	14	6.4	9.0	6	12.0	12.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	18	90.0	95.9	14	100.0	97.8	4	66.7	90.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.8	0	0.0	0.0	0	0.0	3.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.8	0	0.0	1.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	35.0	26.4	2	14.3	13.2	5	83.3	66.7
10. NEONATAL (UNDER 28 DAYS)	24	9.0	9.8	18	8.2	8.7	6	12.2	14.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	13	4.9	4.7	11	5.1	4.1	2	4.1	7.4
12. INFANT DEATHS (UNDER 1 YEAR)	37	13.8	14.5	29	13.3	12.8	8	16.2	21.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1640	9.4	8.9	1422	9.4	8.9	218	9.8	9.4
MALES	857	10.4	10.0	735	10.1	9.8	122	12.2	11.8
FEMALES	783	8.6	8.0	687	8.7	8.0	96	7.9	7.4
14. AGE									
00-04 YEARS	43	3.7	3.5	33	3.4	3.1	10	5.4	5.8
05-14 YEARS	7	0.3	0.3	5	0.2	0.3	2	0.5	0.4
15-24 YEARS	33	1.2	1.2	30	1.3	1.2	3	0.7	0.9
25-34 YEARS	37	1.3	1.3	29	1.2	1.2	8	2.0	2.1
35-44 YEARS	62	2.4	2.4	47	2.1	2.0	15	5.0	5.5
45-54 YEARS	114	6.1	6.2	90	5.3	5.6	24	13.5	12.1
55-64 YEARS	243	14.3	14.9	209	13.4	14.3	34	23.1	20.6
65 AND OVER	1101	52.3	49.9	979	51.7	49.1	122	57.8	56.5
15. PLACE OF DEATH									
HOSPITAL	1036	63.2	64.0	889	62.5	63.8	147	67.4	65.9
OTHER INSTITUTION	269	16.4	14.2	240	16.9	14.6	29	13.3	12.0
HOME OR NON-INSTITUTION	335	20.4	21.7	293	20.6	21.7	42	19.3	22.1
16. OCCURRENCE									
TOTAL	1313	2.3	2.2	1131	2.6	2.5	182	1.3	1.3
TO RESIDENTS	1205	91.8	92.3	1045	92.4	92.4	160	87.9	91.5
OTHER EVENTS									
17. MARRIAGES	979	5.6	5.3						
18. DIVORCES AND ANNULMENTS	1109	6.4	6.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GATES COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	9790	0.2	0.2	4769	0.1	0.1	5021	0.3	0.3
MALES	4848	49.5	49.8	2372	49.7	49.7	2476	49.3	49.9
FEMALES	4942	50.5	50.2	2397	50.3	50.3	2545	50.7	50.1
2. NATURAL INCREASE	4	0.4	1.8	2	0.4	0.4	2	0.4	3.1
LIVE BIRTHS									
3. TOTAL	122	12.5	13.2	66	13.8	13.6	56	11.2	12.9
MALES	59	6.0	6.9	35	7.3	7.5	24	4.8	6.3
FEMALES	63	6.4	6.4	31	6.5	6.1	32	6.4	6.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	118	96.7	97.1	63	95.5	95.2	55	98.2	99.1
PHYSICIAN NOT IN HOSPITAL	1	0.8	0.5	0	0.0	0.6	1	1.8	0.3
#CERTIFIED NURSE MIDWIFE	3	2.5	2.4	3	4.5	4.2	0	0.0	0.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	12	9.8	8.1	4	6.1	5.5	8	14.3	10.6
6. OUT OF WEDLOCK	32	26.2	26.3	7	10.6	6.1	25	44.6	45.9
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0		100.0	0		100.0	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	31.7	26.6	1	14.9	22.4	3	50.8	30.7
9. FETAL DEATHS	4	31.7	14.1	1	14.9	9.6	3	50.8	18.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	1	100.0	100.0	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	75.0	55.6	0	0.0	0.0	3	100.0	83.3
10. NEONATAL (UNDER 28 DAYS)	0	0.0	12.7	0	0.0	12.9	0	0.0	12.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	8.2	3.2	1	15.2	6.5	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	1	8.2	15.9	1	15.2	19.4	0	0.0	12.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	118	12.1	11.4	64	13.4	13.2	54	10.8	9.8
MALES	60	12.4	12.8	31	13.1	14.2	29	11.7	11.6
FEMALES	58	11.7	10.0	33	13.8	12.2	25	9.8	8.0
14. AGE									
00-04 YEARS	2	3.4	4.5	1	4.3	6.2	1	2.9	3.4
05-14 YEARS	0	0.0	0.2	0	0.0	0.0	0	0.0	0.3
15-24 YEARS	0	0.0	1.4	0	0.0	2.4	0	0.0	0.7
25-34 YEARS	2	1.3	1.7	1	1.4	0.9	1	1.1	2.3
35-44 YEARS	2	1.5	2.1	0	0.0	1.0	2	2.9	3.2
45-54 YEARS	3	2.9	7.1	2	3.7	6.2	1	2.0	8.0
55-64 YEARS	14	13.6	15.0	5	8.7	12.6	9	19.7	17.8
65 AND OVER	95	61.8	52.8	55	60.2	53.3	40	64.1	52.2
15. PLACE OF DEATH									
HOSPITAL	69	58.5	59.7	40	62.5	62.5	29	53.7	56.4
OTHER INSTITUTION	18	15.3	12.1	11	17.2	12.0	7	13.0	12.3
HOME OR NON-INSTITUTION	31	26.3	28.1	13	20.3	25.6	18	33.3	31.3
16. OCCURRENCE									
TOTAL	39	0.1	0.1	17	0.0	0.0	22	0.2	0.1
TO RESIDENTS	36	92.3	90.1	15	88.2	84.9	21	95.5	95.5
OTHER EVENTS									
17. MARRIAGES	67	6.8	6.1						
18. DIVORCES AND ANNULMENTS	15	1.5	2.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GRAHAM COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	7017	0.1	0.1	6621	0.1	0.1	396	0.0	0.0
MALES	3479	49.6	49.6	3276	49.5	49.5	203	51.3	51.0
FEMALES	3538	50.4	50.4	3345	50.5	50.5	193	48.7	49.0
2. NATURAL INCREASE	26	3.7	2.9	15	2.3	2.1	11	27.8	16.6
LIVE BIRTHS									
3. TOTAL	98	14.0	12.9	86	13.0	12.2	12	30.3	24.0
MALES	49	7.0	6.8	43	6.5	6.5	6	15.2	12.7
FEMALES	49	7.0	6.0	43	6.5	5.7	6	15.2	11.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	98	100.0	99.8	86	100.0	99.8	12	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	4	4.1	5.2	4	4.7	5.4	0	0.0	4.1
6. OUT OF WEDLOCK	18	18.4	15.3	9	10.5	12.7	9	75.0	36.7
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0			0			0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	1	10.1	15.1	0	0.0	12.1	1	76.9	39.2
9. FETAL DEATHS	1	10.1	10.8	0	0.0	7.3	1	76.9	39.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	0		100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	0	0.0	0.0	0		0.0	0	0.0	0.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	4.4	0	0.0	4.9	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	4.4	0	0.0	4.9	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	72	10.3	9.9	71	10.7	10.1	1	2.5	7.3
MALES	36	10.3	12.3	36	11.0	12.5	0	0.0	8.6
FEMALES	36	10.2	7.6	35	10.5	7.7	1	5.2	6.0
14. AGE									
00-04 YEARS	0	0.0	1.6	0	0.0	1.3	0	0.0	4.3
05-14 YEARS	0	0.0	0.6	0	0.0	0.4	0	0.0	2.3
15-24 YEARS	1	1.0	0.9	1	1.1	1.0	0	0.0	0.0
25-34 YEARS	2	1.9	2.3	2	2.0	2.0	0	0.0	6.7
35-44 YEARS	2	2.0	2.5	2	2.1	2.6	0	0.0	0.0
45-54 YEARS	2	2.7	5.0	2	2.9	4.9	0	0.0	6.5
55-64 YEARS	7	10.3	13.4	7	10.7	13.2	0	0.0	17.7
65 AND OVER	58	55.6	49.7	57	55.9	49.3	1	41.7	64.0
15. PLACE OF DEATH									
HOSPITAL	47	65.3	60.6	46	64.8	60.4	1	100.0	66.7
OTHER INSTITUTION	10	13.9	17.6	10	14.1	17.5	0	0.0	20.0
HOME OR NON-INSTITUTION	15	20.8	21.8	15	21.1	22.2	0	0.0	13.3
16. OCCURRENCE									
TOTAL	22	0.0	0.0	22	0.1	0.1	0	0.0	0.0
TO RESIDENTS	19	86.4	89.1	19	86.4	88.8	0		100.0
OTHER EVENTS									
17. MARRIAGES	90	12.8	11.3						
18. DIVORCES AND ANNULMENTS	29	4.1	3.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GRANVILLE COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	38975	0.6	0.6	22056	0.4	0.4	16919	1.1	1.1
MALES	19315	49.6	49.7	10981	49.8	49.6	8334	49.3	49.7
FEMALES	19660	50.4	50.3	11075	50.2	50.4	8585	50.7	50.3
2. NATURAL INCREASE	143	3.7	3.4	75	3.4	2.7	68	4.0	4.2
LIVE BIRTHS									
3. TOTAL	519	13.3	13.2	276	12.5	12.5	243	14.4	14.1
MALES	253	6.5	6.6	136	6.2	6.2	117	6.9	7.1
FEMALES	266	6.8	6.6	140	6.3	6.4	126	7.4	7.0
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	510	98.3	97.9	269	97.5	96.6	241	99.2	99.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.1	0	0.0	0.3
#CERTIFIED NURSE MIDWIFE	9	1.7	1.9	7	2.5	3.3	2	0.8	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	52	10.0	10.3	14	5.1	8.0	38	15.6	12.9
6. OUT OF WEDLOCK	176	33.9	32.7	29	10.5	8.4	147	60.5	60.2
7. OCCURRENCE									
TOTAL	223	0.2	0.2	100	0.2	0.1	123	0.4	0.4
TO RESIDENTS	187	83.9	82.1	82	82.0	74.7	105	85.4	87.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	17.2	21.1	2	7.2	14.3	7	28.7	28.7
9. FETAL DEATHS	3	5.7	10.0	2	7.2	6.8	1	4.1	13.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	2	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	33.3	48.0	1	50.0	11.1	0	0.0	68.8
10. NEONATAL (UNDER 28 DAYS)	6	11.6	11.3	0	0.0	7.6	6	24.7	15.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	6	11.7	4.5	4	14.5	3.8	2	8.4	5.2
12. INFANT DEATHS (UNDER 1 YEAR)	12	23.1	15.7	4	14.5	11.4	8	32.9	20.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	376	9.6	9.8	201	9.1	9.8	175	10.3	9.9
MALES	211	10.9	10.7	115	10.5	10.6	96	11.5	10.9
FEMALES	165	8.4	9.0	86	7.8	9.1	79	9.2	8.9
14. AGE									
00-04 YEARS	14	6.2	3.9	4	3.5	3.1	10	9.1	4.8
05-14 YEARS	0	0.0	0.4	0	0.0	0.4	0	0.0	0.3
15-24 YEARS	7	1.2	1.6	5	1.7	1.9	2	0.7	1.2
25-34 YEARS	18	2.9	2.1	7	2.0	1.6	11	4.0	2.8
35-44 YEARS	13	2.2	3.0	3	0.9	1.8	10	4.1	4.5
45-54 YEARS	21	4.7	5.2	10	3.7	4.0	11	6.4	7.1
55-64 YEARS	48	12.3	13.6	25	10.3	12.6	23	15.4	15.2
65 AND OVER	255	49.7	52.0	147	46.1	49.4	108	55.6	56.3
15. PLACE OF DEATH									
HOSPITAL	207	55.1	55.5	106	52.7	54.9	101	57.7	56.2
OTHER INSTITUTION	79	21.0	22.2	54	26.9	25.2	25	14.3	18.3
HOME OR NON-INSTITUTION	90	23.9	22.3	41	20.4	19.9	49	28.0	25.4
16. OCCURRENCE									
TOTAL	322	0.6	0.6	170	0.4	0.4	152	1.1	1.1
TO RESIDENTS	263	81.7	79.5	135	79.4	78.2	128	84.2	80.9
OTHER EVENTS									
17. MARRIAGES	290	7.4	7.5						
18. DIVORCES AND ANNULMENTS	110	2.8	3.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GREENE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	16386	0.3	0.3	9264	0.2	0.2	7122	0.5	0.5
MALES	7954	48.5	48.7	4574	49.4	49.3	3380	47.5	47.9
FEMALES	8432	51.5	51.3	4690	50.6	50.7	3742	52.5	52.1
2. NATURAL INCREASE	49	3.0	3.9	4	0.4	0.5	45	6.3	8.1
LIVE BIRTHS									
3. TOTAL	181	11.0	12.2	83	9.0	10.0	98	13.8	15.0
MALES	97	5.9	6.2	49	5.3	5.5	48	6.7	7.2
FEMALES	84	5.1	6.0	34	3.7	4.5	50	7.0	7.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	178	98.3	99.5	83	100.0	100.0	95	96.9	99.1
PHYSICIAN NOT IN HOSPITAL	1	0.6	0.1	0	0.0	0.0	1	1.0	0.2
#CERTIFIED NURSE MIDWIFE	1	0.6	0.1	0	0.0	0.0	1	1.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	22	12.2	9.4	9	10.8	5.5	13	13.3	12.7
6. OUT OF WEDLOCK	66	36.5	36.3	3	3.6	4.2	63	64.3	62.9
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0		100.0	0			0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	16.4	21.5	0	0.0	10.8	3	30.0	30.3
9. FETAL DEATHS	2	10.9	15.7	0	0.0	10.8	2	20.0	19.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	93.8	0		100.0	2	100.0	90.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	50.0	43.8	0		0.0	1	50.0	63.6
10. NEONATAL (UNDER 28 DAYS)	1	5.5	6.0	0	0.0	0.0	1	10.2	10.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	16.7	8.0	1	12.0	6.6	2	20.6	9.2
12. INFANT DEATHS (UNDER 1 YEAR)	4	22.1	13.9	1	12.0	6.6	3	30.6	20.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	132	8.1	8.3	79	8.5	9.4	53	7.4	6.9
MALES	71	8.9	9.8	36	7.9	10.4	35	10.4	9.1
FEMALES	61	7.2	6.9	43	9.2	8.5	18	4.8	5.0
14. AGE									
00-04 YEARS	5	4.4	2.7	2	3.8	1.9	3	5.0	3.3
05-14 YEARS	0	0.0	0.8	0	0.0	0.3	0	0.0	1.1
15-24 YEARS	2	0.8	0.8	1	0.8	0.9	1	0.8	0.6
25-34 YEARS	8	2.8	1.5	2	1.3	1.0	6	4.8	2.1
35-44 YEARS	4	1.7	2.7	3	2.1	2.6	1	1.1	2.9
45-54 YEARS	9	5.5	5.8	3	2.7	4.8	6	11.0	7.7
55-64 YEARS	9	6.0	15.6	5	5.0	16.0	4	8.0	14.9
65 AND OVER	95	49.6	46.9	63	49.4	47.2	32	49.8	46.4
15. PLACE OF DEATH									
HOSPITAL	87	65.9	65.7	55	69.6	68.3	32	60.4	61.4
OTHER INSTITUTION	16	12.1	12.5	9	11.4	11.6	7	13.2	14.2
HOME OR NON-INSTITUTION	29	22.0	21.7	15	19.0	20.1	14	26.4	24.4
16. OCCURRENCE									
TOTAL	35	0.1	0.1	18	0.0	0.1	17	0.1	0.1
TO RESIDENTS	29	82.9	86.3	14	77.8	87.5	15	88.2	84.7
OTHER EVENTS									
17. MARRIAGES	135	8.2	7.8						
18. DIVORCES AND ANNULMENTS	38	2.3	2.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GUILFORD COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	336837	5.2	5.2	242244	4.9	5.0	94593	6.0	5.9
MALES	158167	47.0	47.1	114602	47.3	47.4	43565	46.1	46.4
FEMALES	178670	53.0	52.9	127642	52.7	52.6	51028	53.9	53.6
2. NATURAL INCREASE	1938	5.8	5.0	796	3.3	3.0	1142	12.1	10.0
LIVE BIRTHS									
3. TOTAL	4914	14.6	13.6	3069	12.7	12.1	1845	19.5	17.4
MALES	2555	7.6	6.9	1606	6.6	6.2	949	10.0	8.7
FEMALES	2359	7.0	6.6	1463	6.0	5.9	896	9.5	8.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	4830	98.3	98.3	3003	97.8	97.9	1827	99.0	99.0
PHYSICIAN NOT IN HOSPITAL	8	0.2	0.2	3	0.1	0.1	5	0.3	0.3
#CERTIFIED NURSE MIDWIFE	66	1.3	1.4	57	1.9	1.9	9	0.5	0.5
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	400	8.1	8.4	186	6.1	6.0	214	11.6	12.8
6. OUT OF WEDLOCK	1393	28.3	26.3	329	10.7	9.0	1064	57.7	57.5
7. OCCURRENCE									
TOTAL	6605	6.7	6.6	4679	7.1	6.9	1926	6.1	5.8
TO RESIDENTS	4716	71.4	71.2	2923	62.5	63.2	1793	93.1	92.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	79	15.9	16.0	32	10.4	12.0	47	25.1	23.2
9. FETAL DEATHS	43	8.7	6.9	17	5.5	5.5	26	13.9	9.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	43	100.0	96.1	17	100.0	95.0	26	100.0	97.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.6	0	0.0	5.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.6	0	0.0	0.0	0	0.0	1.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	17	39.5	33.5	3	17.6	18.8	14	53.8	49.3
10. NEONATAL (UNDER 28 DAYS)	36	7.3	9.2	15	4.9	6.5	21	11.4	14.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	30	6.2	4.4	16	5.2	4.3	14	7.7	4.4
12. INFANT DEATHS (UNDER 1 YEAR)	66	13.4	13.5	31	10.1	10.8	35	19.0	18.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	2976	8.8	8.6	2273	9.4	9.1	703	7.4	7.3
MALES	1517	9.6	9.4	1120	9.8	9.7	397	9.1	8.5
FEMALES	1459	8.2	7.9	1153	9.0	8.6	306	6.0	6.3
14. AGE									
00-04 YEARS	74	3.7	3.6	34	2.6	2.9	40	5.7	4.9
05-14 YEARS	8	0.2	0.2	5	0.2	0.2	3	0.2	0.2
15-24 YEARS	37	0.6	0.8	21	0.6	0.8	16	0.8	0.8
25-34 YEARS	99	1.7	1.3	60	1.5	1.1	39	2.2	1.7
35-44 YEARS	114	2.3	2.3	57	1.5	1.7	57	4.4	4.1
45-54 YEARS	183	5.1	5.3	119	4.3	4.3	64	8.3	8.9
55-64 YEARS	396	12.4	12.9	283	10.9	11.6	113	19.3	19.1
65 AND OVER	2065	50.3	50.6	1694	49.8	49.7	371	53.0	54.9
15. PLACE OF DEATH									
HOSPITAL	1849	62.1	61.1	1342	59.0	58.9	507	72.1	68.0
OTHER INSTITUTION	565	19.0	19.6	493	21.7	22.0	72	10.2	11.9
HOME OR NON-INSTITUTION	562	18.9	19.3	438	19.3	19.1	124	17.6	20.1
16. OCCURRENCE									
TOTAL	3264	5.6	5.7	2534	5.8	5.9	730	5.2	5.3
TO RESIDENTS	2654	81.3	81.3	2019	79.7	79.2	635	87.0	88.4
OTHER EVENTS									
17. MARRIAGES	3298	9.8	9.7						
18. DIVORCES AND ANNULMENTS	2324	6.9	6.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HALIFAX COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	56840	0.9	0.9	28495	0.6	0.6	28345	1.8	1.8
MALES	27003	47.5	47.7	13623	47.8	47.9	13380	47.2	47.6
FEMALES	29837	52.5	52.3	14872	52.2	52.1	14965	52.8	52.4
2. NATURAL INCREASE	255	4.5	4.2	-67	-2.4	-1.0	322	11.4	9.2
LIVE BIRTHS									
3. TOTAL	890	15.7	15.0	270	9.5	10.5	620	21.9	19.4
MALES	474	8.3	7.7	147	5.2	5.5	327	11.5	9.9
FEMALES	416	7.3	7.3	123	4.3	5.0	293	10.3	9.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	888	99.8	99.6	269	99.6	99.9	619	99.8	99.5
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.2	1	0.4	0.1	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	1	0.1	0.0	0	0.0	0.0	1	0.2	0.0
PERMITTED MIDWIFE	0	0.0	0.1	0	0.0	0.0	0	0.0	0.1
5. PREMATURE BIRTHS	90	10.1	9.6	23	8.5	5.5	67	10.8	11.7
6. OUT OF WEDLOCK	427	48.0	44.3	58	21.5	14.1	369	59.5	60.4
7. OCCURRENCE									
TOTAL	884	0.9	0.9	184	0.3	0.4	700	2.2	2.1
TO RESIDENTS	635	71.8	71.5	136	73.9	73.8	499	71.3	70.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	21	23.2	21.3	3	11.0	13.5	18	28.4	25.4
9. FETAL DEATHS	15	16.6	13.6	2	7.4	9.4	13	20.5	15.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	15	100.0	98.3	2	100.0	100.0	13	100.0	97.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	10	66.7	56.9	0	0.0	0.0	10	76.9	75.0
10. NEONATAL (UNDER 28 DAYS)	6	6.7	7.8	1	3.7	4.1	5	8.1	9.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	9	10.2	6.0	2	7.4	3.4	7	11.4	7.3
12. INFANT DEATHS (UNDER 1 YEAR)	15	16.9	13.8	3	11.1	7.5	12	19.4	17.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	635	11.2	10.8	337	11.8	11.5	298	10.5	10.2
MALES	343	12.7	12.5	173	12.7	12.3	170	12.7	12.7
FEMALES	292	9.8	9.3	164	11.0	10.8	128	8.6	7.9
14. AGE									
00-04 YEARS	20	5.0	3.6	4	2.5	1.8	16	6.6	4.7
05-14 YEARS	4	0.5	0.4	1	0.3	0.4	3	0.6	0.5
15-24 YEARS	13	1.6	1.0	1	0.3	0.3	12	2.5	1.6
25-34 YEARS	19	2.1	1.6	5	1.2	1.0	14	3.0	2.1
35-44 YEARS	30	3.9	3.2	9	2.2	1.6	21	5.8	5.0
45-54 YEARS	51	9.3	7.9	14	4.4	5.1	37	15.9	11.7
55-64 YEARS	85	14.6	16.4	42	12.2	14.3	43	18.3	19.5
65 AND OVER	413	49.5	51.7	261	50.7	49.9	152	47.6	54.5
15. PLACE OF DEATH									
HOSPITAL	506	79.7	76.8	270	80.1	76.5	236	79.2	77.2
OTHER INSTITUTION	65	10.2	11.5	38	11.3	12.0	27	9.1	10.8
HOME OR NON-INSTITUTION	64	10.1	11.7	29	8.6	11.5	35	11.7	11.9
16. OCCURRENCE									
TOTAL	599	1.0	1.1	304	0.7	0.7	295	2.1	2.1
TO RESIDENTS	436	72.8	74.4	241	79.3	77.8	195	66.1	70.6
OTHER EVENTS									
17. MARRIAGES	410	7.2	7.4						
18. DIVORCES AND ANNULMENTS	162	2.9	3.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HARNETT COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	66286	1.0	1.0	51005	1.0	1.0	15281	1.0	1.0
MALES	32214	48.6	48.6	24922	48.9	48.8	7292	47.7	48.1
FEMALES	34072	51.4	51.4	26083	51.1	51.2	7989	52.3	51.9
2. NATURAL INCREASE	540	8.1	8.3	303	5.9	6.9	237	15.5	12.6
LIVE BIRTHS									
3. TOTAL	1180	17.8	17.4	789	15.5	15.9	391	25.6	22.1
MALES	606	9.1	8.9	401	7.9	8.2	205	13.4	11.3
FEMALES	574	8.7	8.5	388	7.6	7.7	186	12.2	10.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1174	99.5	99.1	785	99.5	99.1	389	99.5	99.0
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	0	0.0	0.1	1	0.3	0.4
#CERTIFIED NURSE MIDWIFE	2	0.2	0.4	2	0.3	0.6	0	0.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	98	8.3	7.3	40	5.1	4.9	58	14.8	12.8
6. OUT OF WEDLOCK	320	27.1	22.2	84	10.6	7.9	236	60.4	55.3
7. OCCURRENCE									
TOTAL	273	0.3	0.3	171	0.3	0.3	102	0.3	0.3
TO RESIDENTS	199	72.9	74.0	113	66.1	68.2	86	84.3	84.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	26	21.9	14.5	15	18.8	12.8	11	28.1	18.3
9. FETAL DEATHS	8	6.7	7.0	7	8.8	7.4	1	2.6	5.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	100.0	100.0	7	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	12.5	28.2	0	0.0	13.8	1	100.0	70.0
10. NEONATAL (UNDER 28 DAYS)	18	15.3	7.5	8	10.1	5.4	10	25.6	12.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	3.4	4.7	1	1.3	3.1	3	7.9	8.4
12. INFANT DEATHS (UNDER 1 YEAR)	22	18.6	12.2	9	11.4	8.5	13	33.2	20.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	640	9.7	9.1	486	9.5	9.0	154	10.1	9.5
MALES	363	11.3	10.3	269	10.8	9.9	94	12.9	11.5
FEMALES	277	8.1	7.9	217	8.3	8.0	60	7.5	7.7
14. AGE									
00-04 YEARS	26	5.2	3.4	10	2.7	2.4	16	12.3	6.0
05-14 YEARS	2	0.2	0.2	1	0.1	0.1	1	0.4	0.4
15-24 YEARS	17	1.3	1.1	14	1.4	1.0	3	0.9	1.2
25-34 YEARS	18	1.7	1.5	9	1.1	1.0	9	3.8	3.0
35-44 YEARS	24	2.8	2.7	19	2.8	2.1	5	2.8	5.4
45-54 YEARS	60	9.4	7.1	46	8.8	6.4	14	11.8	10.1
55-64 YEARS	86	14.9	16.7	62	13.3	15.3	24	21.6	22.7
65 AND OVER	407	54.9	53.4	325	54.3	52.6	82	57.4	56.4
15. PLACE OF DEATH									
HOSPITAL	400	62.5	62.4	299	61.5	62.6	101	65.6	61.9
OTHER INSTITUTION	131	20.5	19.4	97	20.0	20.0	34	22.1	17.6
HOME OR NON-INSTITUTION	109	17.0	18.2	90	18.5	17.5	19	12.3	20.5
16. OCCURRENCE									
TOTAL	459	0.8	0.8	346	0.8	0.8	113	0.8	0.8
TO RESIDENTS	338	73.6	76.5	256	74.0	75.4	82	72.6	79.6
OTHER EVENTS									
17. MARRIAGES	401	6.0	6.0						
18. DIVORCES AND ANNULMENTS	278	4.2	4.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HAYWOOD COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	48269	0.7	0.8	47308	1.0	1.0	961	0.1	0.1
MALES	23213	48.1	48.2	22743	48.1	48.2	470	48.9	49.1
FEMALES	25056	51.9	51.8	24565	51.9	51.8	491	51.1	50.9
2. NATURAL INCREASE	-2	0.0	0.4	-4	-0.1	0.3	2	2.1	1.6
LIVE BIRTHS									
3. TOTAL	532	11.0	10.9	520	11.0	10.9	12	12.5	12.5
MALES	265	5.5	5.5	258	5.5	5.4	7	7.3	7.2
FEMALES	267	5.5	5.4	262	5.5	5.4	5	5.2	5.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	527	99.1	99.1	515	99.0	99.1	12	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.2	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	4	0.8	0.5	4	0.8	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	35	6.6	7.1	34	6.5	7.2	1	8.3	4.9
6. OUT OF WEDLOCK	100	18.8	15.9	93	17.9	15.4	7	58.3	37.7
7. OCCURRENCE									
TOTAL	339	0.3	0.4	331	0.5	0.6	8	0.0	0.0
TO RESIDENTS	314	92.6	95.4	309	93.4	95.6	5	62.5	89.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	13.1	9.9	7	13.4	10.1	0	0.0	0.0
9. FETAL DEATHS	3	5.6	4.2	3	5.7	4.3	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	3	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	1	33.3	18.2	1	33.3	18.2	0		
10. NEONATAL (UNDER 28 DAYS)	4	7.5	5.7	4	7.7	5.9	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	1.9	2.3	1	1.9	2.4	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	5	9.4	8.0	5	9.6	8.2	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	534	11.1	10.5	524	11.1	10.5	10	10.4	10.9
MALES	296	12.8	12.1	291	12.8	12.1	5	10.6	12.1
FEMALES	238	9.5	9.1	233	9.5	9.1	5	10.2	9.7
14. AGE									
00-04 YEARS	7	2.7	1.9	7	2.8	1.9	0	0.0	0.0
05-14 YEARS	1	0.2	0.3	1	0.2	0.3	0	0.0	0.0
15-24 YEARS	10	1.5	1.3	10	1.5	1.3	0	0.0	1.3
25-34 YEARS	12	1.7	1.4	12	1.7	1.4	0	0.0	0.0
35-44 YEARS	14	2.1	2.0	14	2.1	1.9	0	0.0	2.8
45-54 YEARS	23	4.0	4.7	23	4.0	4.6	0	0.0	12.2
55-64 YEARS	70	12.9	12.7	69	13.0	12.7	1	11.9	14.1
65 AND OVER	397	49.9	49.1	388	49.5	48.9	9	79.6	65.7
15. PLACE OF DEATH									
HOSPITAL	338	63.3	61.9	329	62.8	61.7	9	90.0	69.8
OTHER INSTITUTION	100	18.7	19.4	100	19.1	19.4	0	0.0	17.0
HOME OR NON-INSTITUTION	96	18.0	18.8	95	18.1	18.9	1	10.0	13.2
16. OCCURRENCE									
TOTAL	495	0.9	0.9	483	1.1	1.1	12	0.1	0.1
TO RESIDENTS	430	86.9	86.0	420	87.0	86.4	10	83.3	73.8
OTHER EVENTS									
17. MARRIAGES	420	8.7	9.7						
18. DIVORCES AND ANNULMENTS	258	5.3	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HENDERSON COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	69258	1.1	1.1	66789	1.4	1.4	2469	0.2	0.2
MALES	33018	47.7	47.7	31826	47.7	47.7	1192	48.3	48.6
FEMALES	36240	52.3	52.3	34963	52.3	52.3	1277	51.7	51.4
2. NATURAL INCREASE	-96	-1.4	0.7	-103	-1.5	0.3	7	2.8	10.6
LIVE BIRTHS									
3. TOTAL	744	10.7	11.5	705	10.6	11.2	39	15.8	21.3
MALES	403	5.8	6.0	382	5.7	5.8	21	8.5	10.8
FEMALES	341	4.9	5.6	323	4.8	5.4	18	7.3	10.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	719	96.6	94.2	680	96.5	93.9	39	100.0	98.1
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.1	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	23	3.1	5.3	23	3.3	5.6	0	0.0	1.9
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	60	8.1	7.1	54	7.7	6.7	6	15.4	13.5
6. OUT OF WEDLOCK	140	18.8	17.5	113	16.0	14.0	27	69.2	64.0
7. OCCURRENCE									
TOTAL	686	0.7	0.8	644	1.0	1.0	42	0.1	0.2
TO RESIDENTS	558	81.3	82.3	527	81.8	82.4	31	73.8	80.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	13.4	17.1	9	12.7	16.2	1	25.6	29.5
9. FETAL DEATHS	5	6.7	9.7	5	7.0	9.3	0	0.0	14.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	100.0	86.8	5	100.0	85.3	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	7.9	0	0.0	8.8	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	1	20.0	21.1	1	20.0	11.8	0		100.0
10. NEONATAL (UNDER 28 DAYS)	5	6.7	7.5	4	5.7	6.9	1	25.6	15.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	5.4	3.1	2	2.9	2.5	2	52.6	11.4
12. INFANT DEATHS (UNDER 1 YEAR)	9	12.1	10.6	6	8.5	9.4	3	76.9	26.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	840	12.1	10.8	808	12.1	10.8	32	13.0	10.7
MALES	431	13.1	12.2	409	12.9	12.1	22	18.5	13.6
FEMALES	409	11.3	9.6	399	11.4	9.7	10	7.8	7.9
14. AGE									
00-04 YEARS	11	2.7	2.4	8	2.1	2.1	3	16.4	7.2
05-14 YEARS	0	0.0	0.2	0	0.0	0.1	0	0.0	0.5
15-24 YEARS	10	1.1	0.9	10	1.2	0.9	0	0.0	1.0
25-34 YEARS	21	2.1	1.4	19	2.0	1.4	2	4.9	1.9
35-44 YEARS	16	1.7	2.0	16	1.8	1.9	0	0.0	4.5
45-54 YEARS	43	5.9	4.7	40	5.7	4.5	3	12.7	11.7
55-64 YEARS	82	11.1	11.9	79	11.0	11.6	3	14.7	21.2
65 AND OVER	657	47.5	43.2	636	47.0	43.0	21	70.7	51.0
15. PLACE OF DEATH									
HOSPITAL	497	59.2	62.4	475	58.8	62.4	22	68.8	63.4
OTHER INSTITUTION	171	20.4	19.0	164	20.3	18.9	7	21.9	22.4
HOME OR NON-INSTITUTION	172	20.5	18.6	169	20.9	18.7	3	9.4	14.2
16. OCCURRENCE									
TOTAL	772	1.3	1.3	744	1.7	1.6	28	0.2	0.2
TO RESIDENTS	683	88.5	85.6	658	88.4	85.6	25	89.3	85.8
OTHER EVENTS									
17. MARRIAGES	510	7.4	7.3						
18. DIVORCES AND ANNULMENTS	343	5.0	4.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HERTFORD COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	23669	0.4	0.4	10294	0.2	0.2	13375	0.9	0.9
MALES	11215	47.4	47.7	4978	48.4	48.4	6237	46.6	47.1
FEMALES	12454	52.6	52.3	5316	51.6	51.6	7138	53.4	52.9
2. NATURAL INCREASE	96	4.1	3.8	-20	-1.9	-0.5	116	8.7	7.1
LIVE BIRTHS									
3. TOTAL	353	14.9	14.6	107	10.4	10.5	246	18.4	17.8
MALES	184	7.8	7.5	54	5.2	5.6	130	9.7	8.9
FEMALES	169	7.1	7.2	53	5.1	4.9	116	8.7	8.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	353	100.0	99.4	107	100.0	100.0	246	100.0	99.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.5	0	0.0	0.0	0	0.0	0.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.0	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	28	7.9	9.2	8	7.5	5.8	20	8.1	10.8
6. OUT OF WEDLOCK	158	44.8	40.8	12	11.2	8.3	146	59.3	55.3
7. OCCURRENCE									
TOTAL	555	0.6	0.6	98	0.1	0.2	457	1.4	1.5
TO RESIDENTS	268	48.3	48.6	55	56.1	52.3	213	46.6	47.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	11.3	15.3	0	0.0	5.6	4	16.1	19.7
9. FETAL DEATHS	2	5.6	8.0	0	0.0	1.9	2	8.1	10.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	92.9	0		100.0	2	100.0	92.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	7.1	0		0.0	0	0.0	7.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	50.0	50.0	0		0.0	1	50.0	53.8
10. NEONATAL (UNDER 28 DAYS)	2	5.7	7.4	0	0.0	3.7	2	8.1	9.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	5.7	3.5	0	0.0	0.0	2	8.2	5.0
12. INFANT DEATHS (UNDER 1 YEAR)	4	11.3	10.9	0	0.0	3.7	4	16.3	14.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	257	10.9	10.9	127	12.3	11.0	130	9.7	10.7
MALES	143	12.8	12.1	66	13.3	11.0	77	12.3	13.0
FEMALES	114	9.2	9.7	61	11.5	11.0	53	7.4	8.7
14. AGE									
00-04 YEARS	5	3.1	3.3	0	0.0	1.8	5	4.8	4.0
05-14 YEARS	0	0.0	0.3	0	0.0	0.3	0	0.0	0.3
15-24 YEARS	3	0.8	1.2	1	0.6	0.8	2	0.9	1.4
25-34 YEARS	7	2.0	1.9	1	0.7	1.5	6	2.9	2.2
35-44 YEARS	15	4.8	3.0	4	2.8	1.0	11	6.4	4.7
45-54 YEARS	14	6.2	6.7	5	4.5	4.2	9	7.9	9.0
55-64 YEARS	34	14.6	15.8	17	15.2	11.9	17	14.1	19.3
65 AND OVER	179	50.3	52.8	99	54.5	51.3	80	46.0	54.4
15. PLACE OF DEATH									
HOSPITAL	162	63.0	58.7	80	63.0	56.1	82	63.1	60.7
OTHER INSTITUTION	49	19.1	17.5	26	20.5	20.8	23	17.7	14.8
HOME OR NON-INSTITUTION	46	17.9	23.9	21	16.5	23.1	25	19.2	24.5
16. OCCURRENCE									
TOTAL	291	0.5	0.6	150	0.3	0.3	141	1.0	1.2
TO RESIDENTS	168	57.7	62.6	88	58.7	58.4	80	56.7	66.5
OTHER EVENTS									
17. MARRIAGES	170	7.2	7.0						
18. DIVORCES AND ANNULMENTS	115	4.9	4.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HOKE COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	23973	0.4	0.4	10301	0.2	0.2	13672	0.9	0.9
MALES	11539	48.1	48.5	5058	49.1	49.4	6481	47.4	47.9
FEMALES	12434	51.9	51.5	5243	50.9	50.6	7191	52.6	52.1
2. NATURAL INCREASE	220	9.2	9.3	36	3.5	5.6	184	13.5	12.1
LIVE BIRTHS									
3. TOTAL	392	16.4	15.8	128	12.4	13.3	264	19.3	17.7
MALES	202	8.4	8.2	69	6.7	7.1	133	9.7	9.1
FEMALES	190	7.9	7.5	59	5.7	6.2	131	9.6	8.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	390	99.5	99.6	127	99.2	99.8	263	99.6	99.5
PHYSICIAN NOT IN HOSPITAL	1	0.3	0.2	1	0.8	0.2	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.0	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	30	7.7	8.3	9	7.0	6.8	21	8.0	9.1
6. OUT OF WEDLOCK	180	45.9	40.3	16	12.5	9.9	164	62.1	57.3
7. OCCURRENCE									
TOTAL	1	0.0	0.0	1	0.0	0.0	0	0.0	0.0
TO RESIDENTS	1	100.0	100.0	1	100.0	100.0	0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	22.7	15.7	4	30.8	16.6	5	18.7	15.2
9. FETAL DEATHS	5	12.6	7.6	2	15.4	9.0	3	11.2	6.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	100.0	100.0	2	100.0	100.0	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	40.0	50.0	0	0.0	0.0	2	66.7	87.5
10. NEONATAL (UNDER 28 DAYS)	4	10.2	8.2	2	15.6	7.6	2	7.6	8.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	2.6	3.3	0	0.0	3.1	1	3.8	3.4
12. INFANT DEATHS (UNDER 1 YEAR)	5	12.8	11.5	2	15.6	10.7	3	11.4	11.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	172	7.2	6.5	92	8.9	7.6	80	5.9	5.6
MALES	99	8.6	7.4	54	10.7	8.6	45	6.9	6.5
FEMALES	73	5.9	5.6	38	7.2	6.7	35	4.9	4.8
14. AGE									
00-04 YEARS	6	2.8	2.5	2	2.6	2.2	4	2.9	2.6
05-14 YEARS	3	0.7	0.3	1	0.7	0.3	2	0.7	0.3
15-24 YEARS	2	0.5	0.8	0	0.0	0.5	2	0.8	1.0
25-34 YEARS	4	1.0	0.9	3	1.8	0.6	1	0.4	1.1
35-44 YEARS	7	2.2	2.8	1	0.7	2.1	6	3.5	3.5
45-54 YEARS	15	6.8	5.3	10	8.5	5.0	5	4.8	5.7
55-64 YEARS	31	17.1	14.6	16	15.8	14.7	15	18.8	14.5
65 AND OVER	104	47.7	44.9	59	47.9	43.4	45	47.4	46.9
15. PLACE OF DEATH									
HOSPITAL	110	64.0	57.9	54	58.7	54.9	56	70.0	60.9
OTHER INSTITUTION	19	11.0	14.1	11	12.0	15.8	8	10.0	12.4
HOME OR NON-INSTITUTION	43	25.0	28.0	27	29.3	29.3	16	20.0	26.7
16. OCCURRENCE									
TOTAL	67	0.1	0.1	39	0.1	0.1	28	0.2	0.2
TO RESIDENTS	53	79.1	77.0	34	87.2	78.1	19	67.9	75.8
OTHER EVENTS									
17. MARRIAGES	105	4.4	4.0						
18. DIVORCES AND ANNULMENTS	52	2.2	1.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HYDE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	5677	0.1	0.1	3962	0.1	0.1	1715	0.1	0.1
MALES	2764	48.7	48.7	1979	49.9	49.8	785	45.8	46.4
FEMALES	2913	51.3	51.3	1983	50.1	50.2	930	54.2	53.6
2. NATURAL INCREASE	3	0.5	0.6	-14	-3.5	-1.3	17	9.9	4.6
LIVE BIRTHS									
3. TOTAL	62	10.9	11.8	27	6.8	10.1	35	20.4	15.4
MALES	32	5.6	6.1	18	4.5	5.4	14	8.2	7.8
FEMALES	30	5.3	5.7	9	2.3	4.8	21	12.2	7.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	59	95.2	97.4	26	96.3	98.0	33	94.3	96.5
PHYSICIAN NOT IN HOSPITAL	2	3.2	1.7	0	0.0	0.5	2	5.7	3.5
#CERTIFIED NURSE MIDWIFE	1	1.6	0.6	1	3.7	1.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	8	12.9	10.1	1	3.7	6.4	7	20.0	15.3
6. OUT OF WEDLOCK	19	30.6	24.6	0	0.0	3.0	19	54.3	54.9
7. OCCURRENCE									
TOTAL	2	0.0	0.0	0	0.0	0.0	2	0.0	0.0
TO RESIDENTS	2	100.0	100.0	0		100.0	2	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	31.7	34.1	0	0.0	19.5	2	55.6	54.4
9. FETAL DEATHS	1	15.9	17.0	0	0.0	14.6	1	27.8	20.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	83.3	0		100.0	1	100.0	66.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	16.7	0		0.0	0	0.0	33.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	100.0	50.0	0		0.0	1	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	1	16.1	17.3	0	0.0	5.0	1	28.6	34.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	1	16.1	17.3	0	0.0	5.0	1	28.6	34.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	59	10.4	11.2	41	10.3	11.4	18	10.5	10.8
MALES	27	9.8	12.8	19	9.6	12.4	8	10.2	13.6
FEMALES	32	11.0	9.7	22	11.1	10.4	10	10.8	8.4
14. AGE									
00-04 YEARS	2	4.9	3.3	0	0.0	0.7	2	18.0	9.7
05-14 YEARS	1	1.2	0.7	0	0.0	0.7	1	3.5	0.6
15-24 YEARS	1	1.2	1.5	0	0.0	0.7	1	3.2	2.8
25-34 YEARS	0	0.0	1.0	0	0.0	0.9	0	0.0	1.4
35-44 YEARS	0	0.0	2.7	0	0.0	2.9	0	0.0	2.2
45-54 YEARS	2	3.7	11.8	1	2.6	10.5	1	6.5	14.6
55-64 YEARS	4	7.5	15.5	3	7.9	14.4	1	6.6	18.3
65 AND OVER	49	55.2	48.7	37	58.7	51.3	12	46.5	42.6
15. PLACE OF DEATH									
HOSPITAL	36	61.0	54.6	26	63.4	55.1	10	55.6	53.5
OTHER INSTITUTION	9	15.3	20.1	6	14.6	18.5	3	16.7	23.8
HOME OR NON-INSTITUTION	14	23.7	25.3	9	22.0	26.4	5	27.8	22.8
16. OCCURRENCE									
TOTAL	22	0.0	0.0	14	0.0	0.0	8	0.1	0.0
TO RESIDENTS	16	72.7	81.1	9	64.3	75.3	7	87.5	97.0
OTHER EVENTS									
17. MARRIAGES	73	12.9	10.9						
18. DIVORCES AND ANNULMENTS	10	1.8	2.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

IREDELL COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	91592	1.4	1.4	75596	1.5	1.5	15996	1.0	1.0
MALES	44042	48.1	48.1	36512	48.3	48.3	7530	47.1	47.4
FEMALES	47550	51.9	51.9	39084	51.7	51.7	8466	52.9	52.6
2. NATURAL INCREASE	365	4.0	3.9	184	2.4	2.7	181	11.3	9.7
LIVE BIRTHS									
3. TOTAL	1225	13.4	13.0	912	12.1	11.9	313	19.6	18.0
MALES	615	6.7	6.5	468	6.2	6.0	147	9.2	8.8
FEMALES	610	6.7	6.5	444	5.9	5.9	166	10.4	9.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1222	99.8	99.7	911	99.9	99.8	311	99.4	99.6
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	0	0.0	0.0	1	0.3	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	73	6.0	7.8	45	4.9	6.0	28	8.9	13.1
6. OUT OF WEDLOCK	340	27.8	24.7	133	14.6	10.9	207	66.1	66.9
7. OCCURRENCE									
TOTAL	1332	1.4	1.3	1017	1.5	1.5	315	1.0	1.0
TO RESIDENTS	1061	79.7	79.9	778	76.5	76.9	283	89.8	90.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	22	17.8	15.0	15	16.4	12.4	7	21.9	22.9
9. FETAL DEATHS	10	8.1	7.9	3	3.3	5.7	7	21.9	14.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	9	90.0	97.8	3	100.0	100.0	6	85.7	95.2
PHYSICIAN NOT IN HOSPITAL	1	10.0	2.2	0	0.0	0.0	1	14.3	4.8
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	70.0	47.8	3	100.0	20.0	4	57.1	81.0
10. NEONATAL (UNDER 28 DAYS)	12	9.8	7.1	12	13.2	6.7	0	0.0	8.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	12	9.9	6.8	7	7.8	6.5	5	16.0	7.8
12. INFANT DEATHS (UNDER 1 YEAR)	24	19.6	13.9	19	20.8	13.1	5	16.0	16.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	860	9.4	9.1	728	9.6	9.2	132	8.3	8.3
MALES	458	10.4	10.0	386	10.6	10.1	72	9.6	9.8
FEMALES	402	8.5	8.1	342	8.8	8.4	60	7.1	6.9
14. AGE									
00-04 YEARS	30	5.1	3.3	24	5.3	3.1	6	4.4	3.9
05-14 YEARS	4	0.3	0.3	4	0.4	0.3	0	0.0	0.3
15-24 YEARS	20	1.5	1.3	16	1.5	1.3	4	1.3	1.2
25-34 YEARS	30	2.1	1.8	22	1.3	1.6	8	2.9	2.8
35-44 YEARS	23	1.7	2.1	20	1.8	1.7	3	1.5	4.3
45-54 YEARS	47	4.6	4.9	41	4.6	4.2	6	4.5	9.0
55-64 YEARS	107	11.7	12.3	86	10.7	11.4	21	19.8	18.7
65 AND OVER	599	48.8	48.3	515	47.5	47.7	84	58.5	52.6
15. PLACE OF DEATH									
HOSPITAL	554	64.4	68.3	469	64.4	67.6	85	64.4	72.4
OTHER INSTITUTION	141	16.4	14.8	119	16.3	15.5	22	16.7	11.0
HOME OR NON-INSTITUTION	165	19.2	16.8	140	19.2	16.9	25	18.9	16.6
16. OCCURRENCE									
TOTAL	790	1.4	1.3	675	1.5	1.5	115	0.8	0.8
TO RESIDENTS	663	83.9	85.2	560	83.0	84.0	103	89.6	91.7
OTHER EVENTS									
17. MARRIAGES	768	8.4	8.5						
18. DIVORCES AND ANNULMENTS	354	3.9	4.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

JACKSON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	27050	0.4	0.4	23880	0.5	0.5	3170	0.2	0.2
MALES	13007	48.1	48.4	11480	48.1	48.3	1527	48.2	48.9
FEMALES	14043	51.9	51.6	12400	51.9	51.7	1643	51.8	51.1
2. NATURAL INCREASE	73	2.7	2.1	32	1.3	1.1	41	12.9	9.9
LIVE BIRTHS									
3. TOTAL	291	10.8	10.1	231	9.7	9.3	60	18.9	16.1
MALES	140	5.2	5.2	109	4.6	4.8	31	9.8	8.2
FEMALES	151	5.6	4.9	122	5.1	4.6	29	9.1	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	290	99.7	99.1	230	99.6	99.3	60	100.0	98.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.3	0	0.0	0.3	0	0.0	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	11	3.8	5.6	7	3.0	5.4	4	6.7	6.6
6. OUT OF WEDLOCK	46	15.8	14.5	28	12.1	10.1	18	30.0	33.6
7. OCCURRENCE									
TOTAL	790	0.8	0.6	623	0.9	0.7	167	0.5	0.4
TO RESIDENTS	267	33.8	41.0	210	33.7	43.2	57	34.1	32.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	1	3.4	17.4	1	4.3	14.3	0	0.0	30.7
9. FETAL DEATHS	1	3.4	10.2	1	4.3	8.1	0	0.0	19.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	1	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	0	0.0	21.4	0	0.0	33.3	0		0.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	7.3	0	0.0	6.3	0	0.0	11.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	3.4	4.4	1	4.3	4.5	0	0.0	4.0
12. INFANT DEATHS (UNDER 1 YEAR)	1	3.4	11.7	1	4.3	10.8	0	0.0	15.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	218	8.1	8.0	199	8.3	8.3	19	6.0	6.2
MALES	117	9.0	9.1	108	9.4	9.4	9	5.9	6.9
FEMALES	101	7.2	7.1	91	7.3	7.3	10	6.1	5.4
14. AGE									
00-04 YEARS	1	0.7	2.6	1	0.8	2.4	0	0.0	3.8
05-14 YEARS	0	0.0	0.4	0	0.0	0.1	0	0.0	1.4
15-24 YEARS	5	0.8	0.7	5	0.8	0.7	0	0.0	0.5
25-34 YEARS	4	1.0	1.0	3	0.8	1.0	1	1.9	1.2
35-44 YEARS	13	3.7	2.4	9	2.9	2.1	4	10.3	4.8
45-54 YEARS	8	3.0	4.6	7	2.9	4.5	1	3.6	5.2
55-64 YEARS	25	11.3	11.2	24	11.9	11.1	1	5.1	12.2
65 AND OVER	162	49.4	49.6	150	49.1	49.6	12	53.6	49.8
15. PLACE OF DEATH									
HOSPITAL	134	61.5	59.3	124	62.3	58.0	10	52.6	72.4
OTHER INSTITUTION	37	17.0	17.3	33	16.6	17.9	4	21.1	11.2
HOME OR NON-INSTITUTION	47	21.6	23.4	42	21.1	24.1	5	26.3	16.3
16. OCCURRENCE									
TOTAL	188	0.3	0.3	176	0.4	0.4	12	0.1	0.1
TO RESIDENTS	147	78.2	79.1	137	77.8	79.1	10	83.3	79.1
OTHER EVENTS									
17. MARRIAGES	257	9.5	7.9						
18. DIVORCES AND ANNULMENTS	98	3.6	3.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

JOHNSTON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	80664	1.2	1.2	65676	1.3	1.3	14988	1.0	1.0
MALES	38631	47.9	48.0	31721	48.3	48.3	6910	46.1	46.5
FEMALES	42033	52.1	52.0	33955	51.7	51.7	8078	53.9	53.5
2. NATURAL INCREASE	380	4.7	4.3	274	4.2	3.3	106	7.1	8.4
LIVE BIRTHS									
3. TOTAL	1161	14.4	13.7	877	13.4	12.6	284	18.9	18.4
MALES	558	6.9	6.9	415	6.3	6.4	143	9.5	9.1
FEMALES	603	7.5	6.8	462	7.0	6.2	141	9.4	9.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1143	98.4	98.6	861	98.2	98.5	282	99.3	99.1
PHYSICIAN NOT IN HOSPITAL	2	0.2	0.2	1	0.1	0.1	1	0.4	0.4
#CERTIFIED NURSE MIDWIFE	12	1.0	0.9	11	1.3	1.1	1	0.4	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	105	9.0	8.2	70	8.0	6.6	35	12.3	12.5
6. OUT OF WEDLOCK	287	24.7	23.3	108	12.3	10.4	179	63.0	60.2
7. OCCURRENCE									
TOTAL	484	0.5	0.5	306	0.5	0.5	178	0.6	0.6
TO RESIDENTS	453	93.6	91.3	283	92.5	88.9	170	95.5	95.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	17	14.5	12.5	9	10.2	10.8	8	27.7	17.3
9. FETAL DEATHS	9	7.7	6.9	4	4.5	6.0	5	17.3	9.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	9	100.0	97.3	4	100.0	95.8	5	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	6	66.7	37.8	1	25.0	20.8	5	100.0	69.2
10. NEONATAL (UNDER 28 DAYS)	8	6.9	5.6	5	5.7	4.8	3	10.6	8.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	8	6.9	5.5	5	5.7	5.3	3	10.7	5.9
12. INFANT DEATHS (UNDER 1 YEAR)	16	13.8	11.1	10	11.4	10.1	6	21.1	13.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	781	9.7	9.4	603	9.2	9.2	178	11.9	10.0
MALES	424	11.0	10.9	329	10.4	10.6	95	13.7	12.4
FEMALES	357	8.5	8.0	274	8.1	8.0	83	10.3	7.9
14. AGE									
00-04 YEARS	19	3.5	2.6	13	3.1	2.3	6	4.6	3.7
05-14 YEARS	4	0.4	0.4	4	0.5	0.4	0	0.0	0.3
15-24 YEARS	17	1.4	1.3	14	1.5	1.2	3	1.2	1.8
25-34 YEARS	16	1.3	1.3	11	1.1	1.2	5	2.1	1.7
35-44 YEARS	34	2.8	3.1	18	1.8	2.5	16	7.9	5.9
45-54 YEARS	58	6.3	6.7	35	4.4	5.6	23	17.7	12.8
55-64 YEARS	122	15.7	15.4	96	14.5	14.4	26	22.8	20.5
65 AND OVER	511	50.1	49.4	412	48.1	48.8	99	60.3	52.6
15. PLACE OF DEATH									
HOSPITAL	470	60.2	62.3	353	58.5	61.6	117	65.7	64.9
OTHER INSTITUTION	139	17.8	15.9	113	18.7	16.3	26	14.6	14.7
HOME OR NON-INSTITUTION	172	22.0	21.8	137	22.7	22.2	35	19.7	20.4
16. OCCURRENCE									
TOTAL	524	0.9	0.9	399	0.9	0.9	125	0.9	0.8
TO RESIDENTS	468	89.3	88.3	358	89.7	89.9	110	88.0	82.7
OTHER EVENTS									
17. MARRIAGES	583	7.2	8.1						
18. DIVORCES AND ANNULMENTS	409	5.1	4.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

JONES COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	9847	0.2	0.2	5718	0.1	0.1	4129	0.3	0.3
MALES	4501	45.7	46.2	2684	46.9	47.2	1817	44.0	44.8
FEMALES	5346	54.3	53.8	3034	53.1	52.8	2312	56.0	55.2
2. NATURAL INCREASE	43	4.4	3.8	6	1.0	4.8	37	9.0	2.5
LIVE BIRTHS									
3. TOTAL	140	14.2	13.5	66	11.5	13.8	74	17.9	13.1
MALES	61	6.2	6.6	28	4.9	6.7	33	8.0	6.4
FEMALES	79	8.0	6.9	38	6.6	7.1	41	9.9	6.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	136	97.1	95.0	62	93.9	94.3	74	100.0	96.0
PHYSICIAN NOT IN HOSPITAL	2	1.4	0.5	2	3.0	0.8	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	0.7	3.9	1	1.5	4.1	0	0.0	3.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	11	7.9	7.5	3	4.5	6.2	8	10.8	9.4
6. OUT OF WEDLOCK	52	37.1	25.0	10	15.2	9.0	42	56.8	47.3
7. OCCURRENCE									
TOTAL	1	0.0	0.0	1	0.0	0.0	0	0.0	0.0
TO RESIDENTS	1	100.0	100.0	1	100.0	100.0	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	14.1	23.8	1	14.9	10.3	1	13.3	42.4
9. FETAL DEATHS	2	14.1	11.9	1	14.9	5.1	1	13.3	21.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	87.5	1	100.0	100.0	1	100.0	83.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	50.0	62.5	1	100.0	50.0	0	0.0	66.7
10. NEONATAL (UNDER 28 DAYS)	0	0.0	12.0	0	0.0	5.2	0	0.0	21.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.0	0	0.0	2.6	0	0.0	3.7
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	15.0	0	0.0	7.7	0	0.0	25.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	97	9.9	9.7	60	10.5	9.0	37	9.0	10.6
MALES	62	13.8	12.5	41	15.3	11.9	21	11.6	13.3
FEMALES	35	6.5	7.3	19	6.3	6.4	16	6.9	8.4
14. AGE									
00-04 YEARS	0	0.0	2.7	0	0.0	1.6	0	0.0	3.9
05-14 YEARS	0	0.0	0.1	0	0.0	0.3	0	0.0	0.0
15-24 YEARS	2	1.4	1.2	2	2.6	0.5	0	0.0	2.0
25-34 YEARS	6	3.8	1.8	4	4.6	1.4	2	2.9	2.3
35-44 YEARS	2	1.5	3.2	2	2.3	3.0	0	0.0	3.6
45-54 YEARS	7	7.1	6.3	3	4.8	4.7	4	10.9	8.8
55-64 YEARS	15	16.1	13.3	9	16.1	11.9	6	16.1	15.4
65 AND OVER	65	46.3	48.6	40	45.5	42.9	25	47.7	58.1
15. PLACE OF DEATH									
HOSPITAL	59	60.8	67.8	32	53.3	67.3	27	73.0	68.3
OTHER INSTITUTION	10	10.3	11.5	7	11.7	11.8	3	8.1	11.2
HOME OR NON-INSTITUTION	28	28.9	20.7	21	35.0	20.9	7	18.9	20.5
16. OCCURRENCE									
TOTAL	33	0.1	0.0	25	0.1	0.0	8	0.1	0.1
TO RESIDENTS	31	93.9	86.2	23	92.0	79.4	8	100.0	94.5
OTHER EVENTS									
17. MARRIAGES	55	5.6	7.1						
18. DIVORCES AND ANNULMENTS	23	2.3	2.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LEE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	41939	0.6	0.6	33009	0.7	0.7	8930	0.6	0.6
MALES	19861	47.4	47.5	15743	47.7	47.8	4118	46.1	46.5
FEMALES	22078	52.6	52.5	17266	52.3	52.2	4812	53.9	53.5
2. NATURAL INCREASE	274	6.5	6.1	157	4.8	4.8	117	13.1	10.5
LIVE BIRTHS									
3. TOTAL	634	15.1	15.0	420	12.7	13.3	214	24.0	20.9
MALES	307	7.3	7.7	205	6.2	6.8	102	11.4	11.1
FEMALES	327	7.8	7.3	215	6.5	6.5	112	12.5	9.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	626	98.7	98.8	414	98.6	98.6	212	99.1	99.3
PHYSICIAN NOT IN HOSPITAL	1	0.2	0.1	0	0.0	0.0	1	0.5	0.3
#CERTIFIED NURSE MIDWIFE	7	1.1	1.0	6	1.4	1.3	1	0.5	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	55	8.7	7.8	22	5.2	5.4	33	15.4	13.2
6. OUT OF WEDLOCK	170	26.8	25.1	52	12.4	11.2	118	55.1	56.3
7. OCCURRENCE									
TOTAL	803	0.8	0.8	558	0.8	0.8	245	0.8	0.7
TO RESIDENTS	359	44.7	52.2	252	45.2	53.9	107	43.7	48.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	11	17.2	15.9	5	11.8	10.8	6	27.8	27.3
9. FETAL DEATHS	5	7.8	7.5	3	7.1	5.1	2	9.3	12.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	100.0	100.0	3	100.0	100.0	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	60.0	52.2	1	33.3	27.3	2	100.0	75.0
10. NEONATAL (UNDER 28 DAYS)	6	9.5	8.5	2	4.8	5.6	4	18.7	14.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	1.6	3.6	1	2.4	3.3	0	0.0	4.3
12. INFANT DEATHS (UNDER 1 YEAR)	7	11.0	12.1	3	7.1	6.9	4	18.7	19.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	360	8.6	8.9	263	8.0	8.5	97	10.9	10.4
MALES	197	9.9	10.1	144	9.1	9.5	53	12.9	12.5
FEMALES	163	7.4	7.8	119	6.9	7.5	44	9.1	8.6
14. AGE									
00-04 YEARS	8	2.6	2.9	3	1.3	2.1	5	6.3	5.1
05-14 YEARS	1	0.2	0.4	1	0.2	0.4	0	0.0	0.5
15-24 YEARS	7	1.1	1.1	7	1.5	1.1	0	0.0	1.2
25-34 YEARS	14	2.0	1.5	5	0.9	1.2	9	5.9	2.5
35-44 YEARS	15	2.4	3.0	5	1.0	2.0	10	8.4	7.5
45-54 YEARS	20	4.4	6.1	14	3.8	5.2	6	7.5	10.3
55-64 YEARS	65	16.6	16.0	47	14.5	14.1	18	26.4	24.6
65 AND OVER	230	46.4	49.4	181	44.5	47.6	49	55.1	57.2
15. PLACE OF DEATH									
HOSPITAL	210	58.3	57.6	160	60.8	57.1	50	51.5	58.9
OTHER INSTITUTION	61	16.9	20.2	45	17.1	20.7	16	16.5	19.1
HOME OR NON-INSTITUTION	89	24.7	22.2	58	22.1	22.2	31	32.0	22.1
16. OCCURRENCE									
TOTAL	373	0.6	0.6	268	0.6	0.6	105	0.7	0.6
TO RESIDENTS	255	68.4	74.5	189	70.5	75.1	66	62.9	72.8
OTHER EVENTS									
17. MARRIAGES	337	8.0	8.0						
18. DIVORCES AND ANNULMENTS	242	5.8	5.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LENOIR COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	60293	0.9	1.0	36921	0.8	0.8	23372	1.5	1.5
MALES	28160	46.7	46.9	17733	48.0	48.1	10427	44.6	45.1
FEMALES	32133	53.3	53.1	19188	52.0	51.9	12945	55.4	54.9
2. NATURAL INCREASE	174	2.9	2.9	33	0.9	1.3	141	6.0	5.4
LIVE BIRTHS									
3. TOTAL	792	13.1	13.0	396	10.7	11.1	396	16.9	15.9
MALES	424	7.0	6.7	211	5.7	5.8	213	9.1	8.0
FEMALES	368	6.1	6.3	185	5.0	5.3	183	7.8	7.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	790	99.7	99.9	394	99.5	99.9	396	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.0	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	1	0.1	0.0	1	0.3	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	79	10.0	9.8	24	6.1	6.8	55	13.9	13.0
6. OUT OF WEDLOCK	278	35.1	32.5	40	10.1	9.4	238	60.1	57.8
7. OCCURRENCE									
TOTAL	890	0.9	0.9	477	0.7	0.7	413	1.3	1.3
TO RESIDENTS	690	77.5	80.4	342	71.7	74.0	348	84.3	88.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	14	17.4	19.7	5	12.5	16.9	9	22.4	22.7
9. FETAL DEATHS	11	13.7	11.3	5	12.5	12.1	6	14.9	10.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	90.9	93.3	5	100.0	96.0	5	83.3	90.0
PHYSICIAN NOT IN HOSPITAL	1	9.1	2.2	0	0.0	0.0	1	16.7	5.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	45.5	35.6	1	20.0	8.0	4	66.7	70.0
10. NEONATAL (UNDER 28 DAYS)	3	3.8	8.4	0	0.0	4.9	3	7.6	12.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	6.3	6.2	1	2.5	3.9	4	10.2	8.6
12. INFANT DEATHS (UNDER 1 YEAR)	8	10.1	14.5	1	2.5	8.8	7	17.7	20.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	618	10.2	10.1	363	9.8	9.8	255	10.9	10.4
MALES	326	11.6	11.3	188	10.6	10.6	138	13.2	12.6
FEMALES	292	9.1	8.9	175	9.1	9.1	117	9.0	8.7
14. AGE									
00-04 YEARS	10	2.6	3.4	2	1.0	2.4	8	4.3	4.5
05-14 YEARS	2	0.2	0.3	1	0.2	0.3	1	0.2	0.3
15-24 YEARS	21	2.4	1.6	11	2.2	1.3	10	2.7	2.0
25-34 YEARS	12	1.2	1.6	5	0.9	1.2	7	1.8	2.2
35-44 YEARS	24	2.8	3.3	13	2.4	2.5	11	3.6	4.7
45-54 YEARS	43	6.7	6.8	23	5.1	5.5	20	10.4	10.0
55-64 YEARS	77	12.5	15.5	44	10.6	13.4	33	16.7	19.7
65 AND OVER	429	54.8	52.9	264	50.7	50.5	165	63.0	57.4
15. PLACE OF DEATH									
HOSPITAL	409	66.2	65.1	238	65.6	66.0	171	67.1	63.6
OTHER INSTITUTION	66	10.7	15.5	38	10.5	15.4	28	11.0	15.5
HOME OR NON-INSTITUTION	143	23.1	19.6	87	24.0	18.5	56	22.0	20.8
16. OCCURRENCE									
TOTAL	597	1.0	1.1	363	0.8	0.9	234	1.7	1.7
TO RESIDENTS	475	79.6	80.0	287	79.1	79.9	188	80.3	80.2
OTHER EVENTS									
17. MARRIAGES	491	8.1	8.5						
18. DIVORCES AND ANNULMENTS	344	5.7	5.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LINCOLN COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	48589	0.7	0.7	44464	0.9	0.9	4125	0.3	0.3
MALES	23711	48.8	48.8	21743	48.9	48.9	1968	47.7	48.0
FEMALES	24878	51.2	51.2	22721	51.1	51.1	2157	52.3	52.0
2. NATURAL INCREASE	346	7.1	5.8	271	6.1	5.2	75	18.2	11.9
LIVE BIRTHS									
3. TOTAL	726	14.9	13.7	627	14.1	13.1	99	24.0	19.0
MALES	381	7.8	7.1	335	7.5	6.8	46	11.2	9.6
FEMALES	345	7.1	6.6	292	6.6	6.3	53	12.8	9.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	725	99.9	99.7	627	100.0	99.7	98	99.0	99.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	43	5.9	6.5	37	5.9	6.0	6	6.1	10.2
6. OUT OF WEDLOCK	160	22.0	17.3	93	14.8	11.5	67	67.7	58.1
7. OCCURRENCE									
TOTAL	473	0.5	0.5	383	0.6	0.6	90	0.3	0.3
TO RESIDENTS	399	84.4	79.3	320	83.6	78.3	79	87.8	84.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	12.3	12.8	8	12.6	12.1	1	10.0	17.8
9. FETAL DEATHS	7	9.5	6.6	6	9.5	6.4	1	10.0	7.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	7	100.0	95.2	6	100.0	94.4	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	4.8	0	0.0	5.6	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	14.3	14.3	0	0.0	11.1	1	100.0	33.3
10. NEONATAL (UNDER 28 DAYS)	2	2.8	6.3	2	3.2	5.8	0	0.0	10.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	4.1	2.5	3	4.8	2.9	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	5	6.9	8.8	5	8.0	8.6	0	0.0	10.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	380	7.8	7.8	356	8.0	7.9	24	5.8	7.1
MALES	209	8.8	8.8	199	9.2	9.0	10	5.1	7.6
FEMALES	171	6.9	6.8	157	6.9	6.9	14	6.5	6.6
14. AGE									
00-04 YEARS	7	2.2	2.1	6	2.1	2.0	1	2.8	2.7
05-14 YEARS	1	0.1	0.4	0	0.0	0.4	1	1.3	0.5
15-24 YEARS	7	0.9	1.2	7	1.0	1.3	0	0.0	1.0
25-34 YEARS	6	0.7	1.2	4	0.5	1.1	2	3.0	1.5
35-44 YEARS	17	2.3	2.2	12	1.8	1.9	5	9.0	5.9
45-54 YEARS	24	4.4	5.0	23	4.5	4.8	1	3.2	7.7
55-64 YEARS	57	12.5	13.4	55	12.9	13.1	2	7.2	18.2
65 AND OVER	261	49.0	47.8	249	49.9	47.9	12	35.3	46.4
15. PLACE OF DEATH									
HOSPITAL	251	66.1	73.1	235	66.0	73.0	16	66.7	75.3
OTHER INSTITUTION	67	17.6	14.2	64	18.0	14.2	3	12.5	13.7
HOME OR NON-INSTITUTION	62	16.3	12.7	57	16.0	12.8	5	20.8	11.0
16. OCCURRENCE									
TOTAL	292	0.5	0.5	276	0.6	0.6	16	0.1	0.2
TO RESIDENTS	245	83.9	84.6	230	83.3	84.3	15	93.8	87.7
OTHER EVENTS									
17. MARRIAGES	324	6.7	6.9						
18. DIVORCES AND ANNULMENTS	237	4.9	4.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MCDOWELL COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	36342	0.6	0.6	34743	0.7	0.7	1599	0.1	0.1
MALES	17573	48.4	48.4	16849	48.5	48.5	724	45.3	45.8
FEMALES	18769	51.6	51.6	17894	51.5	51.5	875	54.7	54.2
2. NATURAL INCREASE	66	1.8	2.9	62	1.8	2.8	4	2.5	6.2
LIVE BIRTHS									
3. TOTAL	464	12.8	12.2	435	12.5	11.9	29	18.1	17.1
MALES	247	6.8	6.1	232	6.7	6.0	15	9.4	8.8
FEMALES	217	6.0	6.1	203	5.8	5.9	14	8.8	8.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	462	99.6	99.2	433	99.5	99.1	29	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	2	0.4	0.3	2	0.5	0.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	32	6.9	5.8	28	6.4	5.8	4	13.8	6.3
6. OUT OF WEDLOCK	90	19.4	17.0	76	17.5	14.9	14	48.3	46.9
7. OCCURRENCE									
TOTAL	310	0.3	0.3	287	0.4	0.4	23	0.1	0.1
TO RESIDENTS	295	95.2	95.3	272	94.8	95.3	23	100.0	94.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	15.0	15.3	5	11.4	14.9	2	66.7	20.8
9. FETAL DEATHS	4	8.5	7.2	3	6.8	7.2	1	33.3	6.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	3	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	25.0	25.0	0	0.0	20.0	1	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	3	6.5	8.1	2	4.6	7.7	1	34.5	14.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	10.8	6.8	4	9.2	6.8	1	35.7	7.1
12. INFANT DEATHS (UNDER 1 YEAR)	8	17.2	14.9	6	13.8	14.5	2	69.0	21.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	398	11.0	9.3	373	10.7	9.2	25	15.6	10.9
MALES	219	12.5	10.5	205	12.2	10.4	14	19.3	12.0
FEMALES	179	9.5	8.1	168	9.4	8.0	11	12.6	10.0
14. AGE									
00-04 YEARS	8	3.5	2.9	6	2.7	2.8	2	17.5	4.9
05-14 YEARS	5	1.0	0.5	5	1.0	0.6	0	0.0	0.0
15-24 YEARS	8	1.5	1.0	7	1.4	1.0	1	3.6	0.7
25-34 YEARS	8	1.4	1.3	7	1.3	1.3	1	4.3	2.3
35-44 YEARS	10	1.9	2.0	10	2.0	1.9	0	0.0	4.2
45-54 YEARS	30	7.5	5.2	29	7.5	5.3	1	6.8	2.7
55-64 YEARS	49	13.8	11.7	46	13.4	11.2	3	21.9	22.3
65 AND OVER	280	57.5	51.2	263	56.5	50.8	17	81.3	59.3
15. PLACE OF DEATH									
HOSPITAL	242	60.8	59.4	233	62.5	59.4	9	36.0	59.3
OTHER INSTITUTION	89	22.4	23.9	78	20.9	23.7	11	44.0	27.5
HOME OR NON-INSTITUTION	67	16.8	16.7	62	16.6	16.9	5	20.0	13.2
16. OCCURRENCE									
TOTAL	314	0.5	0.5	290	0.7	0.6	24	0.2	0.1
TO RESIDENTS	288	91.7	90.9	269	92.8	91.2	19	79.2	85.3
OTHER EVENTS									
17. MARRIAGES	307	8.4	8.2						
18. DIVORCES AND ANNULMENTS	168	4.6	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MACON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	23404	0.4	0.4	22982	0.5	0.5	422	0.0	0.0
MALES	11223	48.0	48.1	10939	47.6	47.7	284	67.3	67.8
FEMALES	12181	52.0	51.9	12043	52.4	52.3	138	32.7	32.2
2. NATURAL INCREASE	-30	-1.3	-0.6	-32	-1.4	-0.7	2	4.7	4.9
LIVE BIRTHS									
3. TOTAL	240	10.3	10.3	232	10.1	10.1	8	19.0	15.7
MALES	117	5.0	5.3	114	5.0	5.3	3	7.1	5.8
FEMALES	123	5.3	4.9	118	5.1	4.8	5	11.8	9.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	236	98.3	98.1	228	98.3	98.1	8	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.6	0	0.0	0.6	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	0.4	0.4	1	0.4	0.4	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	19	7.9	7.0	17	7.3	6.9	2	25.0	11.4
6. OUT OF WEDLOCK	26	10.8	10.6	18	7.8	9.2	8	100.0	54.3
7. OCCURRENCE									
TOTAL	96	0.1	0.2	92	0.1	0.2	4	0.0	0.0
TO RESIDENTS	67	69.8	82.6	63	68.5	82.2	4	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	8.3	11.7	2	8.6	12.1	0	0.0	0.0
9. FETAL DEATHS	1	4.1	6.7	1	4.3	6.9	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	1	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	1	100.0	37.5	1	100.0	37.5	0		
10. NEONATAL (UNDER 28 DAYS)	1	4.2	5.1	1	4.3	5.2	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	5.9	0	0.0	5.2	0	0.0	28.6
12. INFANT DEATHS (UNDER 1 YEAR)	1	4.2	11.0	1	4.3	10.4	0	0.0	28.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	270	11.5	10.9	264	11.5	10.9	6	14.2	10.8
MALES	144	12.8	12.9	139	12.7	13.0	5	17.6	10.0
FEMALES	126	10.3	9.0	125	10.4	9.0	1	7.2	12.6
14. AGE									
00-04 YEARS	1	0.8	2.5	1	0.8	2.3	0	0.0	22.2
05-14 YEARS	1	0.4	0.3	1	0.4	0.2	0	0.0	6.6
15-24 YEARS	3	1.0	0.6	2	0.7	0.6	1	5.0	0.9
25-34 YEARS	4	1.3	0.8	2	0.7	0.7	2	45.5	8.4
35-44 YEARS	6	1.9	1.7	6	1.9	1.6	0	0.0	5.6
45-54 YEARS	10	3.8	5.0	10	3.8	5.0	0	0.0	6.0
55-64 YEARS	30	10.9	10.6	29	10.6	10.2	1	41.7	46.2
65 AND OVER	215	44.6	42.9	213	44.7	42.9	2	41.7	45.3
15. PLACE OF DEATH									
HOSPITAL	168	62.2	67.9	165	62.5	68.0	3	50.0	62.5
OTHER INSTITUTION	59	21.9	15.1	57	21.6	15.1	2	33.3	16.7
HOME OR NON-INSTITUTION	43	15.9	16.9	42	15.9	16.9	1	16.7	20.8
16. OCCURRENCE									
TOTAL	247	0.4	0.4	240	0.5	0.5	7	0.0	0.0
TO RESIDENTS	194	78.5	79.1	189	78.7	79.0	5	71.4	83.3
OTHER EVENTS									
17. MARRIAGES	190	8.1	8.8						
18. DIVORCES AND ANNULMENTS	100	4.3	4.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MADISON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	17232	0.3	0.3	17033	0.3	0.4	199	0.0	0.0
MALES	8484	49.2	49.2	8384	49.2	49.2	100	50.3	51.0
FEMALES	8748	50.8	50.8	8649	50.8	50.8	99	49.7	49.0
2. NATURAL INCREASE	-12	-0.7	0.2	-14	-0.8	0.2	2	10.1	-6.0
LIVE BIRTHS									
3. TOTAL	186	10.8	10.5	183	10.7	10.6	3	15.1	6.0
MALES	103	6.0	5.6	102	6.0	5.7	1	5.0	2.0
FEMALES	83	4.8	4.9	81	4.8	4.9	2	10.1	4.0
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	181	97.3	95.9	179	97.8	96.0	2	66.7	83.3
PHYSICIAN NOT IN HOSPITAL	1	0.5	0.6	1	0.5	0.6	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	3	1.6	2.3	3	1.6	2.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	6	3.2	5.6	6	3.3	5.7	0	0.0	0.0
6. OUT OF WEDLOCK	23	12.4	11.3	22	12.0	11.3	1	33.3	16.7
7. OCCURRENCE									
TOTAL	2	0.0	0.0	1	0.0	0.0	1	0.0	0.0
TO RESIDENTS	2	100.0	100.0	1	100.0	100.0	1	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	10.7	16.4	2	10.9	16.5	0	0.0	0.0
9. FETAL DEATHS	1	5.3	9.8	1	5.4	9.9	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	1	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	11.1	0	0.0	11.1	0		
10. NEONATAL (UNDER 28 DAYS)	1	5.4	6.6	1	5.5	6.7	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	1.1	0	0.0	1.1	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	1	5.4	7.7	1	5.5	7.8	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	198	11.5	10.4	197	11.6	10.3	1	5.0	12.0
MALES	105	12.4	11.5	104	12.4	11.5	1	10.0	9.8
FEMALES	93	10.6	9.3	93	10.8	9.2	0	0.0	14.3
14. AGE									
00-04 YEARS	1	0.9	1.9	1	1.0	1.9	0	0.0	0.0
05-14 YEARS	1	0.5	0.4	1	0.5	0.4	0	0.0	0.0
15-24 YEARS	4	1.3	1.2	4	1.3	1.2	0	0.0	0.0
25-34 YEARS	2	0.8	1.1	2	0.8	1.2	0	0.0	0.0
35-44 YEARS	8	3.4	2.4	8	3.4	2.5	0	0.0	0.0
45-54 YEARS	6	3.3	3.3	6	3.3	3.3	0	0.0	0.0
55-64 YEARS	20	13.2	11.3	20	13.3	11.4	0	0.0	0.0
65 AND OVER	156	61.0	54.6	155	61.3	54.3	1	38.5	90.2
15. PLACE OF DEATH									
HOSPITAL	78	39.4	46.1	78	39.6	46.5	0	0.0	16.7
OTHER INSTITUTION	49	24.7	24.2	49	24.9	24.0	0	0.0	41.7
HOME OR NON-INSTITUTION	71	35.9	29.6	70	35.5	29.4	1	100.0	41.7
16. OCCURRENCE									
TOTAL	109	0.2	0.2	108	0.2	0.2	1	0.0	0.0
TO RESIDENTS	92	84.4	77.5	91	84.3	77.5	1	100.0	75.0
OTHER EVENTS									
17. MARRIAGES	130	7.5	7.1						
18. DIVORCES AND ANNULMENTS	49	2.8	2.7						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MARTIN COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	26417	0.4	0.4	14856	0.3	0.3	11561	0.7	0.8
MALES	12338	46.7	47.0	7035	47.4	47.4	5303	45.9	46.4
FEMALES	14079	53.3	53.0	7821	52.6	52.6	6258	54.1	53.6
2. NATURAL INCREASE	55	2.1	3.2	-26	-1.8	-0.3	81	7.0	7.5
LIVE BIRTHS									
3. TOTAL	348	13.2	13.7	148	10.0	10.6	200	17.3	17.7
MALES	199	7.5	7.3	72	4.8	5.5	127	11.0	9.6
FEMALES	149	5.6	6.4	76	5.1	5.1	73	6.3	8.0
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	346	99.4	99.7	147	99.3	99.9	199	99.5	99.5
PHYSICIAN NOT IN HOSPITAL	2	0.6	0.1	1	0.7	0.1	1	0.5	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	27	7.8	9.0	8	5.4	5.6	19	9.5	11.6
6. OUT OF WEDLOCK	135	38.8	34.8	11	7.4	6.4	124	62.0	56.1
7. OCCURRENCE									
TOTAL	184	0.2	0.2	72	0.1	0.1	112	0.4	0.4
TO RESIDENTS	107	58.2	59.2	39	54.2	64.9	68	60.7	55.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	11.4	18.4	2	13.3	11.4	2	10.0	23.7
9. FETAL DEATHS	2	5.7	8.7	2	13.3	6.3	0	0.0	10.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	100.0	2	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	0	0.0	50.0	0	0.0	0.0	0		72.7
10. NEONATAL (UNDER 28 DAYS)	2	5.7	9.8	0	0.0	5.1	2	10.0	13.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	5.8	3.9	1	6.8	1.3	1	5.1	5.8
12. INFANT DEATHS (UNDER 1 YEAR)	4	11.5	13.7	1	6.8	6.4	3	15.0	19.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	293	11.1	10.6	174	11.7	10.9	119	10.3	10.2
MALES	183	14.8	12.4	105	14.9	12.6	78	14.7	12.2
FEMALES	110	7.8	8.9	69	8.8	9.4	41	6.6	8.4
14. AGE									
00-04 YEARS	5	2.8	3.4	1	1.1	1.5	4	4.5	5.1
05-14 YEARS	0	0.0	0.1	0	0.0	0.1	0	0.0	0.1
15-24 YEARS	7	1.8	1.0	1	0.5	0.6	6	3.1	1.5
25-34 YEARS	6	1.4	1.3	1	0.4	0.7	5	2.7	1.9
35-44 YEARS	16	4.3	3.3	9	4.2	2.7	7	4.4	4.1
45-54 YEARS	20	7.4	7.0	11	6.3	5.8	9	9.6	9.3
55-64 YEARS	46	18.1	17.1	23	14.4	14.0	23	24.6	22.3
65 AND OVER	193	52.3	53.4	128	54.0	52.2	65	49.3	55.4
15. PLACE OF DEATH									
HOSPITAL	193	65.9	64.5	117	67.2	66.6	76	63.9	61.8
OTHER INSTITUTION	38	13.0	14.4	24	13.8	13.5	14	11.8	15.6
HOME OR NON-INSTITUTION	62	21.2	21.1	33	19.0	19.9	29	24.4	22.6
16. OCCURRENCE									
TOTAL	203	0.3	0.4	111	0.3	0.3	92	0.6	0.7
TO RESIDENTS	180	88.7	84.6	106	95.5	92.1	74	80.4	76.8
OTHER EVENTS									
17. MARRIAGES	262	9.9	8.3						
18. DIVORCES AND ANNULMENTS	88	3.3	3.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MECKLENBURG COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	476033	7.3	7.2	333485	6.8	6.7	142548	9.1	8.7
MALES	226709	47.6	47.8	160982	48.3	48.3	65727	46.1	46.5
FEMALES	249324	52.4	52.2	172503	51.7	51.7	76821	53.9	53.5
2. NATURAL INCREASE	4689	9.9	8.8	2634	7.9	7.2	2055	14.4	12.8
LIVE BIRTHS									
3. TOTAL	8253	17.3	16.1	5157	15.5	14.5	3096	21.7	19.9
MALES	4177	8.8	8.3	2601	7.8	7.4	1576	11.1	10.2
FEMALES	4076	8.6	7.9	2556	7.7	7.1	1520	10.7	9.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	8163	98.9	99.2	5085	98.6	98.9	3078	99.4	99.7
PHYSICIAN NOT IN HOSPITAL	18	0.2	0.1	8	0.2	0.1	10	0.3	0.2
#CERTIFIED NURSE MIDWIFE	61	0.7	0.5	55	1.1	0.7	6	0.2	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	769	9.3	8.3	306	5.9	5.8	463	15.0	12.7
6. OUT OF WEDLOCK	2355	28.5	26.6	510	9.9	8.4	1845	59.6	57.8
7. OCCURRENCE									
TOTAL	11127	11.4	10.5	7699	11.6	10.6	3428	10.8	10.3
TO RESIDENTS	8130	73.1	74.5	5066	65.8	67.8	3064	89.4	89.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	147	17.7	17.3	68	13.1	13.3	79	25.2	24.2
9. FETAL DEATHS	73	8.8	9.2	34	6.5	7.6	39	12.4	11.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	71	97.3	97.1	34	100.0	98.9	37	94.9	95.1
PHYSICIAN NOT IN HOSPITAL	2	2.7	2.4	0	0.0	0.6	2	5.1	4.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.3	0	0.0	0.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	32	43.8	35.7	5	14.7	14.1	27	69.2	59.3
10. NEONATAL (UNDER 28 DAYS)	74	9.0	8.2	34	6.6	5.8	40	12.9	12.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	34	4.2	3.5	9	1.8	2.5	25	8.2	5.3
12. INFANT DEATHS (UNDER 1 YEAR)	108	13.1	11.7	43	8.3	8.2	65	21.0	17.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	3564	7.5	7.3	2523	7.6	7.3	1041	7.3	7.2
MALES	1810	8.0	7.9	1257	7.8	7.7	553	8.4	8.5
FEMALES	1754	7.0	6.8	1266	7.3	7.0	488	6.4	6.1
14. AGE									
00-04 YEARS	119	3.7	3.3	48	2.4	2.3	71	5.9	4.8
05-14 YEARS	16	0.3	0.3	9	0.2	0.2	7	0.3	0.3
15-24 YEARS	64	0.9	0.9	38	0.8	0.8	26	1.0	0.9
25-34 YEARS	129	1.4	1.3	72	1.1	0.9	57	2.0	2.1
35-44 YEARS	168	2.2	2.2	81	1.5	1.5	87	4.1	4.0
45-54 YEARS	262	5.3	5.6	161	4.3	4.2	101	8.9	10.3
55-64 YEARS	548	13.2	12.8	371	11.2	10.9	177	21.6	20.5
65 AND OVER	2258	46.6	47.9	1743	44.7	46.2	515	54.2	54.3
15. PLACE OF DEATH									
HOSPITAL	2013	56.5	57.2	1362	54.0	55.2	651	62.5	61.8
OTHER INSTITUTION	682	19.1	18.1	541	21.4	20.6	141	13.5	12.1
HOME OR NON-INSTITUTION	869	24.4	24.7	620	24.6	24.2	249	23.9	26.1
16. OCCURRENCE									
TOTAL	4526	7.8	7.7	3372	7.7	7.5	1154	8.1	8.2
TO RESIDENTS	3285	72.6	73.0	2327	69.0	69.6	958	83.0	82.6
OTHER EVENTS									
17. MARRIAGES	3392	7.1	6.9						
18. DIVORCES AND ANNULMENTS	2754	5.8	6.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MITCHELL COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	14699	0.2	0.2	14624	0.3	0.3	75	0.0	0.0
MALES	7148	48.6	48.6	7115	48.7	48.6	33	44.0	45.5
FEMALES	7551	51.4	51.4	7509	51.3	51.4	42	56.0	54.5
2. NATURAL INCREASE	36	2.4	1.7	36	2.5	1.6	0	0.0	5.2
LIVE BIRTHS									
3. TOTAL	200	13.6	12.6	199	13.6	12.6	1	13.3	7.9
MALES	94	6.4	6.7	94	6.4	6.7	0	0.0	0.0
FEMALES	106	7.2	5.9	105	7.2	5.9	1	13.3	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	195	97.5	96.9	194	97.5	96.9	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	5	2.5	2.0	5	2.5	2.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.9	0	0.0	0.9	0	0.0	0.0
5. PREMATURE BIRTHS	4	2.0	4.7	4	2.0	4.7	0	0.0	0.0
6. OUT OF WEDLOCK	31	15.5	11.4	31	15.6	11.4	0	0.0	0.0
7. OCCURRENCE									
TOTAL	173	0.2	0.2	170	0.3	0.3	3	0.0	0.0
TO RESIDENTS	99	57.2	56.5	98	57.6	57.0	1	33.3	11.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	0	0.0	6.5	0	0.0	6.6	0	0.0	0.0
9. FETAL DEATHS	0	0.0	5.4	0	0.0	5.5	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		
PERMITTED MIDWIFE	0		0.0	0		0.0	0		
OUT OF WEDLOCK	0		20.0	0		20.0	0		
10. NEONATAL (UNDER 28 DAYS)	0	0.0	1.1	0	0.0	1.1	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	5.0	4.4	1	5.0	4.4	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	1	5.0	5.5	1	5.0	5.5	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	164	11.2	10.9	163	11.1	11.0	1	13.3	2.6
MALES	88	12.3	12.5	87	12.2	12.5	1	30.3	5.7
FEMALES	76	10.1	9.4	76	10.1	9.5	0	0.0	0.0
14. AGE									
00-04 YEARS	2	2.4	2.2	2	2.4	2.2	0	0.0	0.0
05-14 YEARS	2	1.1	0.3	2	1.1	0.3	0	0.0	0.0
15-24 YEARS	1	0.5	0.2	1	0.5	0.2	0	0.0	0.0
25-34 YEARS	3	1.3	1.5	3	1.3	1.5	0	0.0	0.0
35-44 YEARS	3	1.4	2.0	3	1.4	2.0	0	0.0	0.0
45-54 YEARS	5	2.9	6.0	5	2.9	6.0	0	0.0	0.0
55-64 YEARS	11	6.8	10.8	11	6.8	10.8	0	0.0	0.0
65 AND OVER	137	57.2	51.9	136	57.1	52.2	1	66.7	12.7
15. PLACE OF DEATH									
HOSPITAL	97	59.1	65.0	97	59.5	65.1	0	0.0	0.0
OTHER INSTITUTION	40	24.4	17.1	39	23.9	17.0	1	100.0	100.0
HOME OR NON-INSTITUTION	27	16.5	17.9	27	16.6	17.9	0	0.0	0.0
16. OCCURRENCE									
TOTAL	157	0.3	0.2	156	0.4	0.3	1	0.0	0.0
TO RESIDENTS	112	71.3	75.7	111	71.2	76.1	1	100.0	20.0
OTHER EVENTS									
17. MARRIAGES	146	9.9	8.4						
18. DIVORCES AND ANNULMENTS	60	4.1	3.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MONTGOMERY COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	24171	0.4	0.4	18317	0.4	0.4	5854	0.4	0.4
MALES	11818	48.9	49.0	9157	50.0	50.0	2661	45.5	46.0
FEMALES	12353	51.1	51.0	9160	50.0	50.0	3193	54.5	54.0
2. NATURAL INCREASE	78	3.2	3.5	41	2.2	1.6	37	6.3	9.1
LIVE BIRTHS									
3. TOTAL	326	13.5	13.0	222	12.1	11.4	104	17.8	17.8
MALES	180	7.4	6.7	117	6.4	5.8	63	10.8	9.3
FEMALES	146	6.0	6.3	105	5.7	5.5	41	7.0	8.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	323	99.1	99.6	220	99.1	99.5	103	99.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	2	0.6	0.3	1	0.5	0.3	1	1.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	18	5.5	8.7	12	5.4	7.1	6	5.8	11.8
6. OUT OF WEDLOCK	106	32.5	30.2	42	18.9	13.3	64	61.5	63.2
7. OCCURRENCE									
TOTAL	243	0.2	0.3	167	0.3	0.2	76	0.2	0.3
TO RESIDENTS	212	87.2	86.1	141	84.4	83.5	71	93.4	90.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	18.3	18.5	3	13.5	15.5	3	28.6	24.4
9. FETAL DEATHS	1	3.1	8.3	0	0.0	6.8	1	9.5	11.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	0		100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	100.0	38.5	0		14.3	1	100.0	66.7
10. NEONATAL (UNDER 28 DAYS)	5	15.3	10.3	3	13.5	8.8	2	19.2	13.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	9.3	5.2	2	9.1	3.9	1	9.8	7.7
12. INFANT DEATHS (UNDER 1 YEAR)	8	24.5	15.5	5	22.5	12.7	3	28.8	20.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	248	10.3	9.5	181	9.9	9.8	67	11.4	8.7
MALES	128	10.8	10.2	84	9.2	10.2	44	16.5	10.5
FEMALES	120	9.7	8.8	97	10.6	9.4	23	7.2	7.1
14. AGE									
00-04 YEARS	8	4.8	3.4	5	4.5	2.9	3	5.6	4.6
05-14 YEARS	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
15-24 YEARS	6	1.6	1.6	4	1.5	1.8	2	2.1	1.0
25-34 YEARS	8	2.1	1.5	5	1.8	1.1	3	3.0	2.5
35-44 YEARS	7	2.1	1.8	5	1.9	1.4	2	3.0	3.6
45-54 YEARS	14	5.7	6.0	9	4.5	5.6	5	11.2	7.6
55-64 YEARS	35	14.9	14.4	23	12.2	13.4	12	25.8	18.5
65 AND OVER	170	50.4	48.3	130	47.3	47.8	40	63.9	50.6
15. PLACE OF DEATH									
HOSPITAL	175	70.6	69.4	129	71.3	68.6	46	68.7	72.0
OTHER INSTITUTION	33	13.3	14.0	22	12.2	14.7	11	16.4	11.7
HOME OR NON-INSTITUTION	40	16.1	16.6	30	16.6	16.7	10	14.9	16.3
16. OCCURRENCE									
TOTAL	190	0.3	0.3	150	0.3	0.3	40	0.3	0.3
TO RESIDENTS	155	81.6	84.7	118	78.7	83.4	37	92.5	89.6
OTHER EVENTS									
17. MARRIAGES	160	6.6	6.7						
18. DIVORCES AND ANNULMENTS	74	3.1	3.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MOORE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	59317	0.9	0.9	47771	1.0	0.9	11546	0.7	0.7
MALES	28476	48.0	48.1	23042	48.2	48.3	5434	47.1	47.5
FEMALES	30841	52.0	51.9	24729	51.8	51.7	6112	52.9	52.5
2. NATURAL INCREASE	7	0.1	1.8	-48	-1.0	0.3	55	4.8	7.6
LIVE BIRTHS									
3. TOTAL	718	12.1	12.8	509	10.7	11.3	209	18.1	18.7
MALES	403	6.8	6.6	279	5.8	5.8	124	10.7	10.0
FEMALES	315	5.3	6.2	230	4.8	5.5	85	7.4	8.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	709	98.7	98.6	502	98.6	98.3	207	99.0	99.5
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	0	0.0	0.0	1	0.5	0.3
#CERTIFIED NURSE MIDWIFE	6	0.8	1.1	6	1.2	1.5	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	60	8.4	8.0	34	6.7	6.4	26	12.4	11.7
6. OUT OF WEDLOCK	179	24.9	24.9	56	11.0	10.4	123	58.9	59.3
7. OCCURRENCE									
TOTAL	1125	1.1	1.2	773	1.2	1.2	352	1.1	1.1
TO RESIDENTS	648	57.6	59.9	451	58.3	59.2	197	56.0	61.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	19	26.1	15.1	12	23.2	14.1	7	33.2	17.5
9. FETAL DEATHS	10	13.7	8.5	8	15.5	7.8	2	9.5	10.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	9	90.0	90.3	7	87.5	90.0	2	100.0	90.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	3.2	0	0.0	0.0	0	0.0	9.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	30.0	35.5	2	25.0	15.0	1	50.0	72.7
10. NEONATAL (UNDER 28 DAYS)	9	12.5	6.7	4	7.9	6.3	5	23.9	7.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	1.4	3.4	1	2.0	3.2	0	0.0	3.8
12. INFANT DEATHS (UNDER 1 YEAR)	10	13.9	10.0	5	9.8	9.5	5	23.9	11.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	711	12.0	11.0	557	11.7	11.0	154	13.3	11.1
MALES	363	12.7	12.0	282	12.2	12.0	81	14.9	12.1
FEMALES	348	11.3	10.0	275	11.1	10.0	73	11.9	10.2
14. AGE									
00-04 YEARS	13	3.7	2.8	7	2.6	2.5	6	7.3	4.0
05-14 YEARS	3	0.4	0.5	3	0.5	0.6	0	0.0	0.1
15-24 YEARS	11	1.3	1.2	8	1.3	1.2	3	1.5	1.3
25-34 YEARS	10	1.1	1.3	6	0.8	1.0	4	2.2	2.3
35-44 YEARS	23	3.0	3.0	9	1.4	2.0	14	9.7	7.0
45-54 YEARS	41	6.8	6.1	30	5.9	5.3	11	11.2	10.3
55-64 YEARS	86	12.8	12.5	61	10.6	10.8	25	25.4	21.8
65 AND OVER	524	50.5	47.7	433	49.5	47.6	91	55.4	48.2
15. PLACE OF DEATH									
HOSPITAL	414	58.2	58.5	319	57.3	56.6	95	61.7	65.7
OTHER INSTITUTION	143	20.1	18.0	110	19.7	19.0	33	21.4	14.0
HOME OR NON-INSTITUTION	154	21.7	23.5	128	23.0	24.4	26	16.9	20.3
16. OCCURRENCE									
TOTAL	850	1.5	1.4	653	1.5	1.4	197	1.4	1.3
TO RESIDENTS	592	69.6	68.4	471	72.1	71.0	121	61.4	60.0
OTHER EVENTS									
17. MARRIAGES	426	7.2	6.8						
18. DIVORCES AND ANNULMENTS	251	4.2	4.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

NASH COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	72739	1.1	1.1	50240	1.0	1.0	22499	1.4	1.5
MALES	34272	47.1	47.3	24016	47.8	47.8	10256	45.6	46.1
FEMALES	38467	52.9	52.7	26224	52.2	52.2	12243	54.4	53.9
2. NATURAL INCREASE	455	6.3	5.5	192	3.8	3.2	263	11.7	10.3
LIVE BIRTHS									
3. TOTAL	1139	15.7	15.0	654	13.0	12.5	485	21.6	20.4
MALES	576	7.9	7.6	324	6.4	6.4	252	11.2	10.2
FEMALES	563	7.7	7.4	330	6.6	6.1	233	10.4	10.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1130	99.2	99.5	650	99.4	99.5	480	99.0	99.4
PHYSICIAN NOT IN HOSPITAL	5	0.4	0.2	1	0.2	0.1	4	0.8	0.4
#CERTIFIED NURSE MIDWIFE	4	0.4	0.2	3	0.5	0.4	1	0.2	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	96	8.4	8.3	41	6.3	5.5	55	11.3	11.9
6. OUT OF WEDLOCK	350	30.7	29.8	69	10.6	9.2	281	57.9	56.7
7. OCCURRENCE									
TOTAL	1393	1.4	1.5	782	1.2	1.2	611	1.9	2.2
TO RESIDENTS	942	67.6	63.6	530	67.8	64.5	412	67.4	62.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	31	26.8	22.6	14	21.1	16.9	17	34.4	30.1
9. FETAL DEATHS	18	15.6	12.5	9	13.6	11.4	9	18.2	14.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	18	100.0	97.1	9	100.0	94.3	9	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	38.9	35.3	2	22.2	11.4	5	55.6	60.6
10. NEONATAL (UNDER 28 DAYS)	13	11.4	10.2	5	7.6	5.6	8	16.5	16.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	1.8	4.1	0	0.0	2.0	2	4.2	7.0
12. INFANT DEATHS (UNDER 1 YEAR)	15	13.2	14.3	5	7.6	7.5	10	20.6	23.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	684	9.4	9.6	462	9.2	9.3	222	9.9	10.1
MALES	345	10.1	10.8	226	9.4	10.2	119	11.6	12.3
FEMALES	339	8.8	8.4	236	9.0	8.5	103	8.4	8.3
14. AGE									
00-04 YEARS	18	3.7	3.6	6	2.0	1.7	12	6.3	6.3
05-14 YEARS	2	0.2	0.3	0	0.0	0.1	2	0.5	0.7
15-24 YEARS	9	0.8	1.1	5	0.7	1.0	4	1.0	1.3
25-34 YEARS	23	1.9	1.7	11	1.3	1.4	12	3.1	2.5
35-44 YEARS	31	2.8	2.7	9	1.1	1.6	22	7.4	5.9
45-54 YEARS	45	5.9	6.5	27	4.7	5.0	18	9.7	10.8
55-64 YEARS	105	15.5	15.8	76	15.0	13.5	29	16.8	22.0
65 AND OVER	451	50.5	52.6	328	49.3	51.4	123	54.0	55.9
15. PLACE OF DEATH									
HOSPITAL	453	66.2	63.1	305	66.0	62.9	148	66.7	63.5
OTHER INSTITUTION	96	14.0	15.1	70	15.2	16.3	26	11.7	12.7
HOME OR NON-INSTITUTION	135	19.7	21.8	87	18.8	20.8	48	21.6	23.8
16. OCCURRENCE									
TOTAL	796	1.4	1.4	460	1.0	1.1	336	2.4	2.3
TO RESIDENTS	513	64.4	66.8	341	74.1	74.1	172	51.2	56.3
OTHER EVENTS									
17. MARRIAGES	636	8.7	8.8						
18. DIVORCES AND ANNULMENTS	380	5.2	5.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

NEW HANOVER COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	117417	1.8	1.8	92404	1.9	1.9	25013	1.6	1.6
MALES	55668	47.4	47.5	44357	48.0	48.0	11311	45.2	45.5
FEMALES	61749	52.6	52.5	48047	52.0	52.0	13702	54.8	54.5
2. NATURAL INCREASE	621	5.3	4.6	318	3.4	3.4	303	12.1	8.9
LIVE BIRTHS									
3. TOTAL	1642	14.0	13.3	1103	11.9	11.7	539	21.5	18.9
MALES	803	6.8	6.5	553	6.0	5.9	250	10.0	9.0
FEMALES	839	7.1	6.7	550	6.0	5.8	289	11.6	9.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1639	99.8	99.7	1102	99.9	99.7	537	99.6	99.8
PHYSICIAN NOT IN HOSPITAL	2	0.1	0.1	0	0.0	0.1	2	0.4	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	135	8.2	8.3	60	5.4	6.0	75	13.9	13.3
6. OUT OF WEDLOCK	492	30.0	26.8	133	12.1	10.6	359	66.6	62.5
7. OCCURRENCE									
TOTAL	2714	2.8	2.8	1819	2.7	2.8	895	2.8	2.9
TO RESIDENTS	1622	59.8	57.6	1088	59.8	58.6	534	59.7	55.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	16	9.7	15.5	6	5.4	11.4	10	18.4	24.3
9. FETAL DEATHS	7	4.2	8.9	3	2.7	6.3	4	7.4	14.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	7	100.0	98.5	3	100.0	100.0	4	100.0	97.1
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	28.6	38.2	0	0.0	18.2	2	50.0	57.1
10. NEONATAL (UNDER 28 DAYS)	9	5.5	6.6	3	2.7	5.2	6	11.1	9.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	1.2	2.9	1	0.9	2.5	1	1.9	3.9
12. INFANT DEATHS (UNDER 1 YEAR)	11	6.7	9.5	4	3.6	7.7	7	13.0	13.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1021	8.7	8.7	785	8.5	8.3	236	9.4	10.0
MALES	535	9.6	9.5	407	9.2	8.9	128	11.3	11.5
FEMALES	486	7.9	7.9	378	7.9	7.7	108	7.9	8.7
14. AGE									
00-04 YEARS	12	1.6	2.2	4	0.7	1.6	8	4.1	3.8
05-14 YEARS	3	0.2	0.2	0	0.0	0.2	3	0.7	0.4
15-24 YEARS	14	0.7	0.8	11	0.8	0.9	3	0.7	0.6
25-34 YEARS	19	0.9	1.2	13	0.8	1.0	6	1.4	2.1
35-44 YEARS	43	2.4	2.2	26	1.8	1.6	17	4.9	5.1
45-54 YEARS	66	5.5	5.2	45	4.5	4.3	21	10.6	9.6
55-64 YEARS	138	13.1	14.6	99	11.3	13.0	39	21.7	21.4
65 AND OVER	726	53.4	52.8	587	54.3	52.1	139	49.9	55.3
15. PLACE OF DEATH									
HOSPITAL	614	60.1	61.9	452	57.6	60.5	162	68.6	66.0
OTHER INSTITUTION	160	15.7	17.7	141	18.0	19.2	19	8.1	13.1
HOME OR NON-INSTITUTION	247	24.2	20.5	192	24.5	20.3	55	23.3	20.9
16. OCCURRENCE									
TOTAL	1333	2.3	2.3	996	2.3	2.3	337	2.4	2.5
TO RESIDENTS	929	69.7	69.7	716	71.9	70.9	213	63.2	66.4
OTHER EVENTS									
17. MARRIAGES	1018	8.7	8.8						
18. DIVORCES AND ANNULMENTS	789	6.7	6.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

NORTHAMPTON COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	22108	0.3	0.4	8876	0.2	0.2	13232	0.8	0.9
MALES	10800	48.9	49.1	4421	49.8	49.8	6379	48.2	48.6
FEMALES	11308	51.1	50.9	4455	50.2	50.2	6853	51.8	51.4
2. NATURAL INCREASE	8	0.4	1.7	-35	-3.9	-3.4	43	3.2	5.0
LIVE BIRTHS									
3. TOTAL	281	12.7	13.3	75	8.4	9.4	206	15.6	15.9
MALES	141	6.4	6.7	42	4.7	4.9	99	7.5	7.9
FEMALES	140	6.3	6.6	33	3.7	4.6	107	8.1	7.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	280	99.6	99.5	75	100.0	99.8	205	99.5	99.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.3	0	0.0	0.0	0	0.0	0.5
#CERTIFIED NURSE MIDWIFE	1	0.4	0.1	0	0.0	0.2	1	0.5	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	22	7.8	8.5	4	5.3	4.8	18	8.7	10.0
6. OUT OF WEDLOCK	136	48.4	46.7	5	6.7	7.0	131	63.6	62.1
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0		41.7	0		0.0	0		55.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	8	28.2	24.0	0	0.0	4.8	8	38.3	31.3
9. FETAL DEATHS	3	10.6	10.6	0	0.0	2.4	3	14.4	13.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	66.7	93.8	0		100.0	2	66.7	93.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	2	66.7	56.3	0		0.0	2	66.7	60.0
10. NEONATAL (UNDER 28 DAYS)	5	17.8	13.4	0	0.0	2.4	5	24.3	17.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	7.2	1.4	0	0.0	0.0	2	10.0	1.9
12. INFANT DEATHS (UNDER 1 YEAR)	7	24.9	14.8	0	0.0	2.4	7	34.0	19.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	273	12.3	11.6	110	12.4	12.9	163	12.3	10.8
MALES	156	14.4	12.7	57	12.9	12.9	99	15.5	12.6
FEMALES	117	10.3	10.6	53	11.9	12.9	64	9.3	9.1
14. AGE									
00-04 YEARS	10	7.2	3.9	1	2.2	1.8	9	9.6	4.8
05-14 YEARS	1	0.3	0.4	0	0.0	0.5	1	0.5	0.4
15-24 YEARS	2	0.6	1.0	0	0.0	0.2	2	0.9	1.4
25-34 YEARS	7	2.0	1.3	2	1.5	0.9	5	2.3	1.6
35-44 YEARS	10	3.4	2.9	0	0.0	0.9	10	5.7	4.4
45-54 YEARS	21	9.2	8.1	7	6.5	4.3	14	11.5	11.2
55-64 YEARS	34	14.5	15.2	11	10.2	11.3	23	18.1	18.5
65 AND OVER	188	58.3	58.3	89	55.2	59.2	99	61.5	57.5
15. PLACE OF DEATH									
HOSPITAL	185	67.8	65.7	69	62.7	64.5	116	71.2	66.5
OTHER INSTITUTION	38	13.9	13.7	20	18.2	16.0	18	11.0	12.0
HOME OR NON-INSTITUTION	50	18.3	20.6	21	19.1	19.5	29	17.8	21.4
16. OCCURRENCE									
TOTAL	79	0.1	0.1	36	0.1	0.1	43	0.3	0.3
TO RESIDENTS	68	86.1	88.2	29	80.6	85.6	39	90.7	90.3
OTHER EVENTS									
17. MARRIAGES	137	6.2	5.9						
18. DIVORCES AND ANNULMENTS	47	2.1	2.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ONSLOW COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	125506	1.9	2.0	92678	1.9	1.9	32828	2.1	2.1
MALES	73258	58.4	58.7	53886	58.1	58.3	19372	59.0	60.0
FEMALES	52248	41.6	41.3	38792	41.9	41.7	13456	41.0	40.0
2. NATURAL INCREASE	2792	22.2	22.6	2011	21.7	23.0	781	23.8	21.4
LIVE BIRTHS									
3. TOTAL	3322	26.5	26.9	2410	26.0	27.6	912	27.8	24.9
MALES	1687	13.4	13.7	1238	13.4	14.0	449	13.7	12.7
FEMALES	1635	13.0	13.2	1172	12.6	13.6	463	14.1	12.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	3308	99.6	99.7	2399	99.5	99.7	909	99.7	99.9
PHYSICIAN NOT IN HOSPITAL	6	0.2	0.1	4	0.2	0.1	2	0.2	0.1
#CERTIFIED NURSE MIDWIFE	8	0.2	0.1	7	0.3	0.1	1	0.1	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	242	7.3	6.3	153	6.3	5.4	89	9.8	8.9
6. OUT OF WEDLOCK	349	10.5	8.7	156	6.5	5.7	193	21.2	18.2
7. OCCURRENCE									
TOTAL	3160	3.2	3.5	2289	3.5	3.9	871	2.8	2.8
TO RESIDENTS	3084	97.6	96.9	2239	97.8	97.2	845	97.0	95.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	49	14.7	14.2	31	12.8	13.4	18	19.5	16.6
9. FETAL DEATHS	21	6.3	6.5	12	5.0	6.5	9	9.8	6.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	21	100.0	97.2	12	100.0	96.4	9	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	14.3	12.8	1	8.3	9.6	2	22.2	23.1
10. NEONATAL (UNDER 28 DAYS)	28	8.4	7.7	19	7.9	6.9	9	9.9	10.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	11	3.3	3.9	4	1.7	3.3	7	7.8	5.8
12. INFANT DEATHS (UNDER 1 YEAR)	39	11.7	11.5	23	9.5	10.1	16	17.5	15.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	530	4.2	4.3	399	4.3	4.6	131	4.0	3.6
MALES	289	3.9	4.1	228	4.2	4.4	61	3.1	3.4
FEMALES	241	4.6	4.5	171	4.4	4.8	70	5.2	3.9
14. AGE									
00-04 YEARS	45	3.9	4.0	28	3.4	3.8	17	5.2	4.4
05-14 YEARS	14	0.9	0.4	7	0.6	0.3	7	1.4	0.5
15-24 YEARS	24	0.6	0.6	18	0.6	0.6	6	0.5	0.6
25-34 YEARS	26	1.2	1.3	18	1.2	1.2	8	1.5	1.6
35-44 YEARS	27	2.0	2.0	18	1.7	1.8	9	3.2	2.8
45-54 YEARS	37	4.4	5.3	24	3.5	5.0	13	8.2	6.6
55-64 YEARS	76	11.5	13.9	60	10.9	13.1	16	14.4	18.2
65 AND OVER	281	43.3	46.5	226	41.4	46.3	55	53.2	48.0
15. PLACE OF DEATH									
HOSPITAL	361	68.1	68.0	275	68.9	68.7	86	65.6	65.7
OTHER INSTITUTION	76	14.3	16.0	54	13.5	14.7	22	16.8	20.7
HOME OR NON-INSTITUTION	93	17.5	16.0	70	17.5	16.7	23	17.6	13.6
16. OCCURRENCE									
TOTAL	467	0.8	0.9	337	0.8	0.9	130	0.9	0.9
TO RESIDENTS	397	85.0	82.1	291	86.4	85.0	106	81.5	73.1
OTHER EVENTS									
17. MARRIAGES	1578	12.6	12.6						
18. DIVORCES AND ANNULMENTS	911	7.3	6.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ORANGE COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	88484	1.4	1.3	72191	1.5	1.4	16293	1.0	1.0
MALES	42082	47.6	47.7	34542	47.8	47.9	7540	46.3	46.7
FEMALES	46402	52.4	52.3	37649	52.2	52.1	8753	53.7	53.3
2. NATURAL INCREASE	621	7.0	6.5	460	6.4	6.2	161	9.9	7.9
LIVE BIRTHS									
3. TOTAL	1128	12.7	12.3	839	11.6	11.6	289	17.7	15.5
MALES	595	6.7	6.4	438	6.1	6.0	157	9.6	8.0
FEMALES	533	6.0	5.9	401	5.6	5.5	132	8.1	7.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1042	92.4	92.5	757	90.2	90.7	285	98.6	98.6
PHYSICIAN NOT IN HOSPITAL	2	0.2	0.2	1	0.1	0.2	1	0.3	0.3
#CERTIFIED NURSE MIDWIFE	77	6.8	6.6	74	8.8	8.4	3	1.0	0.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	86	7.6	6.9	46	5.5	5.5	40	13.8	11.4
6. OUT OF WEDLOCK	203	18.0	16.4	53	6.3	6.5	150	51.9	48.5
7. OCCURRENCE									
TOTAL	2138	2.2	2.0	1189	1.8	1.7	949	3.0	2.8
TO RESIDENTS	524	24.5	25.9	308	25.9	27.9	216	22.8	23.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	25	21.9	16.4	13	15.4	11.8	12	40.3	31.1
9. FETAL DEATHS	14	12.3	9.1	5	5.9	6.0	9	30.2	19.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	14	100.0	93.8	5	100.0	91.7	9	100.0	95.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	4.2	0	0.0	8.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	8	57.1	31.3	2	40.0	16.7	6	66.7	45.8
10. NEONATAL (UNDER 28 DAYS)	11	9.8	7.3	8	9.5	5.8	3	10.4	12.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	0.9	4.1	1	1.2	3.8	0	0.0	4.9
12. INFANT DEATHS (UNDER 1 YEAR)	12	10.6	11.3	9	10.7	9.6	3	10.4	17.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	507	5.7	5.8	379	5.2	5.4	128	7.9	7.6
MALES	252	6.0	6.4	191	5.5	5.9	61	8.1	8.6
FEMALES	255	5.5	5.3	188	5.0	4.9	67	7.7	6.8
14. AGE									
00-04 YEARS	19	4.1	3.1	14	3.9	2.7	5	4.7	4.4
05-14 YEARS	0	0.0	0.2	0	0.0	0.2	0	0.0	0.2
15-24 YEARS	6	0.2	0.4	5	0.2	0.4	1	0.3	0.5
25-34 YEARS	17	1.0	1.1	11	0.7	0.8	6	2.1	2.3
35-44 YEARS	18	1.7	1.6	14	1.6	1.5	4	1.8	2.3
45-54 YEARS	20	2.7	4.1	12	2.0	3.1	8	5.6	8.1
55-64 YEARS	81	13.8	12.1	62	13.1	10.8	19	17.0	17.4
65 AND OVER	346	44.1	46.6	261	41.9	46.4	85	52.5	47.4
15. PLACE OF DEATH									
HOSPITAL	261	51.5	51.6	185	48.8	49.2	76	59.4	59.1
OTHER INSTITUTION	103	20.3	21.6	81	21.4	23.5	22	17.2	16.0
HOME OR NON-INSTITUTION	143	28.2	26.7	113	29.8	27.3	30	23.4	24.9
16. OCCURRENCE									
TOTAL	1075	1.9	1.8	671	1.5	1.5	404	2.9	2.7
TO RESIDENTS	373	34.7	35.4	269	40.1	40.5	104	25.7	26.2
OTHER EVENTS									
17. MARRIAGES	692	7.8	7.7						
18. DIVORCES AND ANNULMENTS	331	3.7	3.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

PAMLICO COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	10980	0.2	0.2	7712	0.2	0.2	3268	0.2	0.2
MALES	5232	47.7	47.8	3720	48.2	48.2	1512	46.3	46.7
FEMALES	5748	52.3	52.2	3992	51.8	51.8	1756	53.7	53.3
2. NATURAL INCREASE	29	2.6	2.6	10	1.3	0.9	19	5.8	6.5
LIVE BIRTHS									
3. TOTAL	146	13.3	12.8	92	11.9	11.7	54	16.5	15.5
MALES	75	6.8	6.9	46	6.0	6.1	29	8.9	8.6
FEMALES	71	6.5	5.9	46	6.0	5.5	25	7.6	6.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	128	87.7	86.5	75	81.5	83.7	53	98.1	91.2
PHYSICIAN NOT IN HOSPITAL	1	0.7	2.1	1	1.1	3.2	0	0.0	0.4
#CERTIFIED NURSE MIDWIFE	14	9.6	11.0	13	14.1	12.4	1	1.9	8.5
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	13	8.9	9.3	6	6.5	6.3	7	13.0	14.2
6. OUT OF WEDLOCK	38	26.0	26.4	5	5.4	5.9	33	61.1	61.2
7. OCCURRENCE									
TOTAL	3	0.0	0.0	3	0.0	0.0	0	0.0	0.0
TO RESIDENTS	3	100.0	100.0	3	100.0	100.0	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	13.6	21.1	0	0.0	15.7	2	36.4	30.3
9. FETAL DEATHS	1	6.8	11.3	0	0.0	9.0	1	18.2	15.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	87.5	0		75.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	12.5	0		25.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	100.0	37.5	0		0.0	1	100.0	75.0
10. NEONATAL (UNDER 28 DAYS)	1	6.8	10.0	0	0.0	6.8	1	18.5	15.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	5.8	0	0.0	6.8	0	0.0	3.9
12. INFANT DEATHS (UNDER 1 YEAR)	1	6.8	15.7	0	0.0	13.6	1	18.5	19.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	117	10.7	10.2	82	10.6	10.7	35	10.7	9.0
MALES	69	13.2	12.7	48	12.9	13.1	21	13.9	12.0
FEMALES	48	8.4	7.9	34	8.5	8.6	14	8.0	6.4
14. AGE									
00-04 YEARS	1	1.5	3.1	0	0.0	2.7	1	4.3	3.9
05-14 YEARS	1	0.6	0.4	1	1.0	0.6	0	0.0	0.0
15-24 YEARS	5	3.3	2.0	5	5.0	2.5	0	0.0	1.1
25-34 YEARS	2	1.2	1.8	0	0.0	1.1	2	3.8	3.4
35-44 YEARS	3	2.0	2.7	1	0.9	1.9	2	5.3	5.1
45-54 YEARS	7	6.0	5.8	6	6.9	4.7	1	3.3	8.5
55-64 YEARS	15	12.1	12.4	12	13.4	13.4	3	8.8	9.9
65 AND OVER	83	48.9	47.0	57	45.1	47.6	26	60.0	45.1
15. PLACE OF DEATH									
HOSPITAL	67	57.3	52.5	46	56.1	50.9	21	60.0	57.0
OTHER INSTITUTION	14	12.0	14.2	10	12.2	13.3	4	11.4	16.6
HOME OR NON-INSTITUTION	36	30.8	33.3	26	31.7	35.9	10	28.6	26.5
16. OCCURRENCE									
TOTAL	48	0.1	0.1	34	0.1	0.1	14	0.1	0.1
TO RESIDENTS	44	91.7	93.6	31	91.2	93.9	13	92.9	92.7
OTHER EVENTS									
17. MARRIAGES	81	7.4	8.6						
18. DIVORCES AND ANNULMENTS	18	1.6	2.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

PASQUOTANK COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	30675	0.5	0.5	19803	0.4	0.4	10872	0.7	0.7
MALES	14590	47.6	47.8	9576	48.4	48.5	5014	46.1	46.6
FEMALES	16085	52.4	52.2	10227	51.6	51.5	5858	53.9	53.4
2. NATURAL INCREASE	191	6.2	6.0	76	3.8	3.9	115	10.6	9.7
LIVE BIRTHS									
3. TOTAL	512	16.7	15.7	298	15.0	13.9	214	19.7	18.7
MALES	270	8.8	8.1	153	7.7	7.0	117	10.8	9.9
FEMALES	242	7.9	7.6	145	7.3	6.9	97	8.9	8.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	482	94.1	91.4	269	90.3	86.1	213	99.5	98.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	30	5.9	8.5	29	9.7	13.8	1	0.5	1.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	36	7.0	9.0	14	4.7	6.9	22	10.3	11.7
6. OUT OF WEDLOCK	165	32.2	28.7	33	11.1	9.4	132	61.7	53.9
7. OCCURRENCE									
TOTAL	886	0.9	1.0	614	0.9	1.0	274	0.9	1.0
TO RESIDENTS	463	52.1	47.9	271	44.1	39.8	192	70.1	65.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	14	26.7	22.8	9	29.5	20.1	5	22.8	26.1
9. FETAL DEATHS	12	22.9	14.3	7	23.0	11.9	5	22.8	17.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	12	100.0	94.1	7	100.0	93.8	5	100.0	94.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.9	0	0.0	0.0	0	0.0	5.6
#CERTIFIED NURSE MIDWIFE	0	0.0	2.9	0	0.0	6.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	41.7	35.3	2	28.6	12.5	3	60.0	55.6
10. NEONATAL (UNDER 28 DAYS)	2	3.9	8.6	2	6.7	8.3	0	0.0	8.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	2.0	3.0	0	0.0	0.0	1	4.7	7.0
12. INFANT DEATHS (UNDER 1 YEAR)	3	5.9	11.5	2	6.7	8.3	1	4.7	15.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	321	10.5	9.6	222	11.2	10.0	99	9.1	9.0
MALES	164	11.2	10.1	110	11.5	10.2	54	10.8	10.1
FEMALES	157	9.8	9.2	112	11.0	9.9	45	7.7	8.0
14. AGE									
00-04 YEARS	3	1.4	3.3	2	1.5	2.5	1	1.2	4.4
05-14 YEARS	2	0.5	0.1	1	0.4	0.1	1	0.6	0.2
15-24 YEARS	2	0.4	0.7	1	0.3	0.6	1	0.4	0.8
25-34 YEARS	6	1.3	1.7	3	1.0	1.5	3	2.0	2.2
35-44 YEARS	12	3.0	1.9	8	2.9	1.6	4	3.1	2.6
45-54 YEARS	21	7.3	5.6	11	5.5	4.7	10	11.3	7.6
55-64 YEARS	31	10.7	13.3	18	9.2	12.0	13	13.6	16.0
65 AND OVER	244	58.1	53.0	178	60.9	53.3	66	51.8	52.3
15. PLACE OF DEATH									
HOSPITAL	200	62.3	64.2	137	61.7	63.3	63	63.6	66.0
OTHER INSTITUTION	59	18.4	17.4	38	17.1	18.4	21	21.2	15.4
HOME OR NON-INSTITUTION	62	19.3	18.4	47	21.2	18.3	15	15.2	18.6
16. OCCURRENCE									
TOTAL	474	0.8	0.7	332	0.8	0.7	142	1.0	0.9
TO RESIDENTS	258	54.4	57.9	186	56.0	54.9	72	50.7	64.9
OTHER EVENTS									
17. MARRIAGES	609	19.9	29.7						
18. DIVORCES AND ANNULMENTS	178	5.8	5.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

PENDER COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	27082	0.4	0.4	17593	0.4	0.3	9489	0.6	0.6
MALES	13135	48.5	48.7	8765	49.8	49.8	4370	46.1	46.8
FEMALES	13947	51.5	51.3	8828	50.2	50.2	5119	53.9	53.2
2. NATURAL INCREASE	109	4.0	3.7	90	5.1	2.8	19	2.0	5.2
LIVE BIRTHS									
3. TOTAL	371	13.7	13.1	230	13.1	11.7	141	14.9	15.5
MALES	194	7.2	6.7	119	6.8	6.1	75	7.9	7.8
FEMALES	177	6.5	6.4	111	6.3	5.6	66	7.0	7.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	368	99.2	99.8	230	100.0	100.0	138	97.9	99.4
PHYSICIAN NOT IN HOSPITAL	3	0.8	0.2	0	0.0	0.0	3	2.1	0.6
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	30	8.1	8.9	11	4.8	6.7	19	13.5	11.7
6. OUT OF WEDLOCK	99	26.7	28.4	14	6.1	7.6	85	60.3	55.7
7. OCCURRENCE									
TOTAL	2	0.0	0.0	0	0.0	0.0	2	0.0	0.0
TO RESIDENTS	2	100.0	81.8	0			2	100.0	81.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	5	13.4	22.6	3	13.0	19.9	2	14.0	26.1
9. FETAL DEATHS	3	8.0	13.1	1	4.3	11.5	2	14.0	15.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	1	100.0	100.0	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	66.7	50.0	0	0.0	18.2	2	100.0	81.8
10. NEONATAL (UNDER 28 DAYS)	2	5.4	9.6	2	8.7	8.5	0	0.0	11.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	2.7	4.3	1	4.4	3.2	0	0.0	5.6
12. INFANT DEATHS (UNDER 1 YEAR)	3	8.1	13.9	3	13.0	11.7	0	0.0	16.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	262	9.7	9.4	140	8.0	8.9	122	12.9	10.3
MALES	160	12.2	11.6	85	9.7	10.5	75	17.2	13.6
FEMALES	102	7.3	7.4	55	6.2	7.3	47	9.2	7.4
14. AGE									
00-04 YEARS	3	1.6	3.3	3	2.6	2.3	0	0.0	4.7
05-14 YEARS	0	0.0	0.2	0	0.0	0.3	0	0.0	0.1
15-24 YEARS	9	2.3	1.5	2	0.8	1.1	7	4.7	1.9
25-34 YEARS	7	1.7	1.6	3	1.1	1.0	4	2.8	2.6
35-44 YEARS	11	2.8	2.9	4	1.5	2.3	7	5.6	4.3
45-54 YEARS	20	7.1	6.3	13	6.7	5.1	7	8.2	8.8
55-64 YEARS	45	16.4	14.8	24	12.9	13.6	21	23.7	17.2
65 AND OVER	167	44.7	46.1	91	36.8	44.1	76	60.2	49.9
15. PLACE OF DEATH									
HOSPITAL	188	71.8	67.0	99	70.7	65.6	89	73.0	69.2
OTHER INSTITUTION	25	9.5	13.4	14	10.0	14.1	11	9.0	12.4
HOME OR NON-INSTITUTION	49	18.7	19.6	27	19.3	20.4	22	18.0	18.4
16. OCCURRENCE									
TOTAL	156	0.3	0.3	81	0.2	0.2	75	0.5	0.5
TO RESIDENTS	135	86.5	82.2	67	82.7	81.4	68	90.7	83.4
OTHER EVENTS									
17. MARRIAGES	212	7.8	8.1						
18. DIVORCES AND ANNULMENTS	70	2.6	2.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

PERQUIMANS COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	11033	0.2	0.2	7209	0.1	0.1	3824	0.2	0.2
MALES	5190	47.0	47.3	3401	47.2	47.3	1789	46.8	47.4
FEMALES	5843	53.0	52.7	3808	52.8	52.7	2035	53.2	52.6
2. NATURAL INCREASE	-2	-0.2	3.0	-26	-3.6	1.0	24	6.3	6.6
LIVE BIRTHS									
3. TOTAL	145	13.1	13.9	72	10.0	11.4	73	19.1	18.2
MALES	74	6.7	7.0	40	5.5	5.8	34	8.9	9.2
FEMALES	71	6.4	6.9	32	4.4	5.6	39	10.2	9.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	142	97.9	95.7	70	97.2	92.5	72	98.6	99.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	3	2.1	4.1	2	2.8	7.3	1	1.4	0.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	9	6.2	7.0	5	6.9	5.5	4	5.5	8.7
6. OUT OF WEDLOCK	55	37.9	33.1	9	12.5	9.4	46	63.0	59.6
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0		100.0	0		100.0	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	27.2	25.6	2	27.4	18.0	2	27.0	34.1
9. FETAL DEATHS	2	13.6	16.2	1	13.7	10.3	1	13.5	22.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	100.0	1	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	50.0	25.0	0	0.0	0.0	1	100.0	37.5
10. NEONATAL (UNDER 28 DAYS)	2	13.8	9.6	1	13.9	7.8	1	13.7	11.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.8	0	0.0	2.6	0	0.0	2.9
12. INFANT DEATHS (UNDER 1 YEAR)	2	13.8	12.3	1	13.9	10.4	1	13.7	14.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	147	13.3	10.8	98	13.6	10.4	49	12.8	11.6
MALES	74	14.3	11.7	47	13.8	11.1	27	15.1	12.7
FEMALES	73	12.5	10.1	51	13.4	9.8	22	10.8	10.6
14. AGE									
00-04 YEARS	2	2.7	2.7	1	2.3	2.4	1	3.2	3.1
05-14 YEARS	0	0.0	0.4	0	0.0	0.5	0	0.0	0.3
15-24 YEARS	4	2.7	1.8	3	3.3	1.8	1	1.8	1.7
25-34 YEARS	3	1.8	1.6	2	1.9	1.2	1	1.7	2.4
35-44 YEARS	4	2.9	2.2	2	2.1	2.3	2	4.7	2.1
45-54 YEARS	9	7.9	6.2	4	5.0	4.7	5	14.4	9.3
55-64 YEARS	17	14.6	12.6	9	10.7	10.0	8	24.7	18.9
65 AND OVER	108	54.9	45.3	77	56.4	42.3	31	51.3	52.0
15. PLACE OF DEATH									
HOSPITAL	93	63.3	59.4	54	55.1	58.9	39	79.6	60.3
OTHER INSTITUTION	26	17.7	16.7	22	22.4	17.7	4	8.2	15.1
HOME OR NON-INSTITUTION	28	19.0	23.9	22	22.4	23.4	6	12.2	24.7
16. OCCURRENCE									
TOTAL	58	0.1	0.1	48	0.1	0.1	10	0.1	0.1
TO RESIDENTS	47	81.0	84.9	40	83.3	83.2	7	70.0	88.4
OTHER EVENTS									
17. MARRIAGES	68	6.2	6.3						
18. DIVORCES AND ANNULMENTS	44	4.0	3.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

PERSON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	31422	0.5	0.5	21797	0.4	0.4	9625	0.6	0.6
MALES	14971	47.6	47.9	10471	48.0	48.1	4500	46.8	47.3
FEMALES	16451	52.4	52.1	11326	52.0	51.9	5125	53.2	52.7
2. NATURAL INCREASE	112	3.6	3.5	46	2.1	1.7	66	6.9	7.4
LIVE BIRTHS									
3. TOTAL	411	13.1	12.6	249	11.4	10.9	162	16.8	16.2
MALES	211	6.7	6.4	134	6.1	5.6	77	8.0	8.0
FEMALES	200	6.4	6.2	115	5.3	5.3	85	8.8	8.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	392	95.4	96.7	233	93.6	94.9	159	98.1	99.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	18	4.4	3.1	15	6.0	4.7	3	1.9	0.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	35	8.5	8.4	20	8.0	6.3	15	9.3	11.6
6. OUT OF WEDLOCK	126	30.7	28.7	27	10.8	8.4	99	61.1	58.4
7. OCCURRENCE									
TOTAL	14	0.0	0.1	6	0.0	0.1	8	0.0	0.2
TO RESIDENTS	11	78.6	88.8	3	50.0	89.2	8	100.0	88.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	21.6	15.9	3	12.0	12.1	6	36.1	21.5
9. FETAL DEATHS	6	14.4	8.2	2	8.0	6.9	4	24.1	10.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	83.3	93.8	1	50.0	87.5	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	16.7	6.3	1	50.0	12.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	50.0	43.8	0	0.0	12.5	3	75.0	75.0
10. NEONATAL (UNDER 28 DAYS)	3	7.3	7.8	1	4.0	5.2	2	12.3	11.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	9.8	4.7	1	4.0	2.6	3	18.7	7.8
12. INFANT DEATHS (UNDER 1 YEAR)	7	17.0	12.4	2	8.0	7.8	5	30.9	19.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	299	9.5	9.1	203	9.3	9.2	96	10.0	8.9
MALES	172	11.5	10.8	111	10.6	10.6	61	13.6	11.3
FEMALES	127	7.7	7.6	92	8.1	8.0	35	6.8	6.7
14. AGE									
00-04 YEARS	8	3.9	3.1	2	1.5	1.9	6	8.9	5.2
05-14 YEARS	0	0.0	0.2	0	0.0	0.1	0	0.0	0.2
15-24 YEARS	7	1.6	1.2	3	1.0	1.1	4	2.5	1.4
25-34 YEARS	6	1.1	1.1	2	0.6	0.9	4	2.4	1.7
35-44 YEARS	12	2.7	2.7	4	1.3	2.1	8	5.9	4.1
45-54 YEARS	20	6.2	5.7	10	4.1	4.7	10	12.5	8.9
55-64 YEARS	53	17.2	14.6	41	17.8	13.6	12	15.4	17.6
65 AND OVER	193	44.6	46.1	141	43.6	45.3	52	47.4	48.1
15. PLACE OF DEATH									
HOSPITAL	201	67.2	65.2	131	64.5	63.8	70	72.9	68.5
OTHER INSTITUTION	32	10.7	14.8	26	12.8	16.3	6	6.3	11.4
HOME OR NON-INSTITUTION	66	22.1	20.0	46	22.7	19.9	20	20.8	20.1
16. OCCURRENCE									
TOTAL	207	0.4	0.4	139	0.3	0.3	68	0.5	0.5
TO RESIDENTS	194	93.7	89.9	133	95.7	91.5	61	89.7	86.4
OTHER EVENTS									
17. MARRIAGES	240	7.6	8.2						
18. DIVORCES AND ANNULMENTS	159	5.1	4.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

PITT COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	102006	1.6	1.5	66998	1.4	1.3	35008	2.2	2.2
MALES	47703	46.8	46.9	32039	47.8	47.9	15664	44.7	45.2
FEMALES	54303	53.2	53.1	34959	52.2	52.1	19344	55.3	54.8
2. NATURAL INCREASE	799	7.8	7.0	406	6.1	5.4	393	11.2	10.0
LIVE BIRTHS									
3. TOTAL	1611	15.8	15.1	892	13.3	12.6	719	20.5	19.8
MALES	831	8.1	7.6	456	6.8	6.4	375	10.7	9.9
FEMALES	780	7.6	7.5	436	6.5	6.2	344	9.8	9.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1608	99.8	99.7	889	99.7	99.8	719	100.0	99.7
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.1	0.0	0	0.0	0.1
#CERTIFIED NURSE MIDWIFE	2	0.1	0.1	2	0.2	0.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	124	7.7	9.4	38	4.3	6.1	86	12.0	13.4
6. OUT OF WEDLOCK	539	33.5	30.8	82	9.2	7.0	457	63.6	59.1
7. OCCURRENCE									
TOTAL	2551	2.6	2.7	1330	2.0	2.0	1221	3.9	4.3
TO RESIDENTS	1555	61.0	57.5	855	64.3	61.1	700	57.3	53.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	28	17.3	17.5	8	8.9	12.4	20	27.5	23.7
9. FETAL DEATHS	10	6.2	6.6	3	3.4	4.9	7	9.6	8.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	98.0	3	100.0	100.0	7	100.0	96.6
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.0	0	0.0	0.0	0	0.0	3.4
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	6	60.0	40.8	1	33.3	15.0	5	71.4	58.6
10. NEONATAL (UNDER 28 DAYS)	18	11.2	11.1	5	5.6	7.5	13	18.1	15.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	10	6.3	3.8	2	2.3	1.0	8	11.3	7.2
12. INFANT DEATHS (UNDER 1 YEAR)	28	17.4	14.8	7	7.8	8.4	21	29.2	22.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	812	8.0	8.1	486	7.3	7.2	326	9.3	9.8
MALES	431	9.0	9.1	248	7.7	7.9	183	11.7	11.4
FEMALES	381	7.0	7.2	238	6.8	6.6	143	7.4	8.4
14. AGE									
00-04 YEARS	30	4.4	3.8	8	2.1	2.1	22	7.2	5.7
05-14 YEARS	6	0.4	0.4	4	0.6	0.3	2	0.3	0.4
15-24 YEARS	11	0.4	0.5	8	0.4	0.5	3	0.4	0.5
25-34 YEARS	22	1.2	1.3	12	1.0	1.0	10	1.7	1.9
35-44 YEARS	35	2.8	2.9	11	1.3	1.7	24	5.6	5.4
45-54 YEARS	61	6.9	6.8	32	5.1	4.6	29	11.5	11.9
55-64 YEARS	101	12.9	15.9	58	10.9	12.6	43	17.2	22.6
65 AND OVER	546	54.4	55.0	353	53.6	53.1	193	55.8	58.5
15. PLACE OF DEATH									
HOSPITAL	483	59.5	56.9	270	55.6	53.6	213	65.3	61.4
OTHER INSTITUTION	109	13.4	15.2	75	15.4	17.9	34	10.4	11.5
HOME OR NON-INSTITUTION	220	27.1	27.9	141	29.0	28.5	79	24.2	27.1
16. OCCURRENCE									
TOTAL	1305	2.2	2.3	774	1.8	1.7	531	3.7	4.0
TO RESIDENTS	736	56.4	57.7	440	56.8	57.0	296	55.7	58.6
OTHER EVENTS									
17. MARRIAGES	810	7.9	8.0						
18. DIVORCES AND ANNULMENTS	443	4.3	4.1						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

POLK COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	14722	0.2	0.2	13608	0.3	0.3	1114	0.1	0.1
MALES	6965	47.3	47.4	6448	47.4	47.4	517	46.4	47.0
FEMALES	7757	52.7	52.6	7160	52.6	52.6	597	53.6	53.0
2. NATURAL INCREASE	-45	-3.1	-3.8	-38	-2.8	-4.1	-7	-6.3	0.0
LIVE BIRTHS									
3. TOTAL	151	10.3	9.1	138	10.1	8.7	13	11.7	12.8
MALES	83	5.6	4.6	76	5.6	4.3	7	6.3	7.0
FEMALES	68	4.6	4.5	62	4.6	4.4	6	5.4	5.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	148	98.0	97.6	135	97.8	97.2	13	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	1	0.7	0.3	1	0.7	0.3	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.8	0	0.0	0.9	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	8	5.3	6.0	8	5.8	5.5	0	0.0	9.3
6. OUT OF WEDLOCK	27	17.9	15.1	20	14.5	9.3	7	53.8	60.0
7. OCCURRENCE									
TOTAL	3	0.0	0.1	3	0.0	0.1	0	0.0	0.0
TO RESIDENTS	3	100.0	63.0	3	100.0	60.3	0		81.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	26.3	9.1	3	21.7	6.9	1	71.4	26.3
9. FETAL DEATHS	1	6.6	1.5	0	0.0	0.0	1	71.4	13.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	0			1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0			0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0			0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0			0	0.0	0.0
OUT OF WEDLOCK	1	100.0	100.0	0			1	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	3	19.9	7.6	3	21.7	6.9	0	0.0	13.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	6.8	12.3	1	7.4	12.2	0	0.0	13.5
12. INFANT DEATHS (UNDER 1 YEAR)	4	26.5	19.8	4	29.0	19.0	0	0.0	26.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	196	13.3	12.8	176	12.9	12.8	20	18.0	12.8
MALES	103	14.8	14.3	93	14.4	14.3	10	19.3	13.4
FEMALES	93	12.0	11.5	83	11.6	11.4	10	16.8	12.2
14. AGE									
00-04 YEARS	4	5.2	3.4	4	5.7	3.2	0	0.0	5.4
05-14 YEARS	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
15-24 YEARS	4	2.3	2.4	2	1.3	2.4	2	10.6	3.1
25-34 YEARS	2	1.1	0.7	2	1.1	0.8	0	0.0	0.0
35-44 YEARS	8	4.2	2.6	7	4.0	2.5	1	7.0	4.5
45-54 YEARS	4	2.5	4.6	4	2.6	4.1	0	0.0	11.5
55-64 YEARS	24	13.5	11.2	20	11.9	10.9	4	39.2	16.8
65 AND OVER	150	44.0	45.0	137	42.4	44.4	13	71.0	55.7
15. PLACE OF DEATH									
HOSPITAL	116	59.2	56.0	106	60.2	55.9	10	50.0	57.3
OTHER INSTITUTION	43	21.9	23.2	38	21.6	23.6	5	25.0	18.7
HOME OR NON-INSTITUTION	37	18.9	20.8	32	18.2	20.5	5	25.0	24.0
16. OCCURRENCE									
TOTAL	191	0.3	0.3	167	0.4	0.4	24	0.2	0.1
TO RESIDENTS	144	75.4	77.4	129	77.2	77.9	15	62.5	72.0
OTHER EVENTS									
17. MARRIAGES	116	7.9	7.1						
18. DIVORCES AND ANNULMENTS	44	3.0	3.1						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

RANDOLPH COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	102753	1.6	1.6	96395	2.0	1.9	6358	0.4	0.4
MALES	49685	48.4	48.5	46716	48.5	48.5	2969	46.7	47.2
FEMALES	53068	51.6	51.5	49679	51.5	51.5	3389	53.3	52.8
2. NATURAL INCREASE	624	6.1	5.9	564	5.9	5.6	60	9.4	10.3
LIVE BIRTHS									
3. TOTAL	1470	14.3	13.6	1338	13.9	13.2	132	20.8	20.0
MALES	756	7.4	7.0	691	7.2	6.8	65	10.2	9.9
FEMALES	714	6.9	6.6	647	6.7	6.4	67	10.5	10.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1418	96.5	96.6	1291	96.5	96.7	127	96.2	96.4
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	0	0.0	0.1	1	0.8	0.2
#CERTIFIED NURSE MIDWIFE	46	3.1	2.4	43	3.2	2.5	3	2.3	1.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.3
5. PREMATURE BIRTHS	112	7.6	7.1	91	6.8	6.7	21	15.9	11.4
6. OUT OF WEDLOCK	234	15.9	14.6	163	12.2	10.5	71	53.8	54.2
7. OCCURRENCE									
TOTAL	355	0.4	0.5	313	0.5	0.6	42	0.1	0.2
TO RESIDENTS	337	94.9	93.5	295	94.2	92.8	42	100.0	97.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	20	13.5	13.4	15	11.1	11.2	5	37.6	33.8
9. FETAL DEATHS	10	6.8	7.5	9	6.7	6.5	1	7.5	16.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	94.1	9	100.0	95.0	1	100.0	90.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	20.0	21.6	2	22.2	12.5	0	0.0	54.5
10. NEONATAL (UNDER 28 DAYS)	10	6.8	5.9	6	4.5	4.7	4	30.3	17.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	3.4	4.0	4	3.0	3.9	1	7.8	4.8
12. INFANT DEATHS (UNDER 1 YEAR)	15	10.2	9.9	10	7.5	8.7	5	37.9	21.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	846	8.2	7.7	774	8.0	7.6	72	11.3	9.7
MALES	474	9.5	8.9	438	9.4	8.8	36	12.1	10.0
FEMALES	372	7.0	6.5	336	6.8	6.3	36	10.6	9.5
14. AGE									
00-04 YEARS	18	2.8	2.5	12	2.0	2.1	6	13.5	6.6
05-14 YEARS	4	0.3	0.2	4	0.3	0.3	0	0.0	0.2
15-24 YEARS	29	1.8	1.2	28	1.9	1.2	1	0.9	0.8
25-34 YEARS	25	1.5	1.3	21	1.3	1.1	4	3.7	3.5
35-44 YEARS	32	2.0	1.7	30	2.0	1.6	2	2.1	3.6
45-54 YEARS	47	3.9	4.8	42	3.7	4.5	5	8.3	9.8
55-64 YEARS	129	13.1	12.1	122	13.0	11.6	7	14.3	20.5
65 AND OVER	562	46.4	45.0	515	45.2	44.7	47	65.0	49.8
15. PLACE OF DEATH									
HOSPITAL	480	56.7	60.4	438	56.6	60.1	42	58.3	63.3
OTHER INSTITUTION	174	20.6	17.2	163	21.1	17.7	11	15.3	11.3
HOME OR NON-INSTITUTION	192	22.7	22.4	173	22.4	22.2	19	26.4	25.4
16. OCCURRENCE									
TOTAL	567	1.0	0.9	516	1.2	1.1	51	0.4	0.3
TO RESIDENTS	505	89.1	90.4	466	90.3	90.8	39	76.5	85.2
OTHER EVENTS									
17. MARRIAGES	766	7.5	7.7						
18. DIVORCES AND ANNULMENTS	331	3.2	3.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

RICHMOND COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	45860	0.7	0.7	33934	0.7	0.7	11926	0.8	0.8
MALES	21836	47.6	47.7	16333	48.1	48.1	5503	46.1	46.6
FEMALES	24024	52.4	52.3	17601	51.9	51.9	6423	53.9	53.4
2. NATURAL INCREASE	178	3.9	2.9	54	1.6	1.5	124	10.4	6.7
LIVE BIRTHS									
3. TOTAL	657	14.3	12.9	380	11.2	11.0	277	23.2	18.1
MALES	346	7.5	6.6	198	5.8	5.7	148	12.4	9.2
FEMALES	311	6.8	6.3	182	5.4	5.3	129	10.8	8.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	656	99.8	99.5	379	99.7	99.7	277	100.0	99.1
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.3	0	0.0	0.1	0	0.0	0.6
#CERTIFIED NURSE MIDWIFE	1	0.2	0.1	1	0.3	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	56	8.5	8.0	28	7.4	6.3	28	10.1	11.0
6. OUT OF WEDLOCK	211	32.1	27.7	46	12.1	11.5	165	59.6	54.5
7. OCCURRENCE									
TOTAL	440	0.4	0.4	206	0.3	0.4	234	0.7	0.6
TO RESIDENTS	402	91.4	90.7	188	91.3	89.6	214	91.5	92.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	15	22.6	19.3	8	20.9	15.0	7	24.8	26.5
9. FETAL DEATHS	8	12.0	9.0	3	7.8	7.5	5	17.7	11.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	100.0	100.0	3	100.0	100.0	5	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	50.0	29.6	0	0.0	7.1	4	80.0	53.8
10. NEONATAL (UNDER 28 DAYS)	7	10.7	10.4	5	13.2	7.6	2	7.2	15.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	7.7	6.5	3	8.0	5.4	2	7.3	8.2
12. INFANT DEATHS (UNDER 1 YEAR)	12	18.3	16.8	8	21.1	13.0	4	14.4	23.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	479	10.4	10.1	326	9.6	9.5	153	12.8	11.4
MALES	257	11.8	11.4	175	10.7	10.8	82	14.9	12.9
FEMALES	222	9.2	8.9	151	8.6	8.4	71	11.1	10.1
14. AGE									
00-04 YEARS	16	5.3	4.1	9	4.3	2.8	7	7.5	6.7
05-14 YEARS	2	0.3	0.3	0	0.0	0.3	2	0.9	0.4
15-24 YEARS	13	1.9	1.4	10	2.1	1.5	3	1.5	1.1
25-34 YEARS	7	1.0	1.6	3	0.6	1.4	4	2.1	2.2
35-44 YEARS	16	2.5	2.2	9	1.9	1.7	7	4.8	4.0
45-54 YEARS	31	6.5	6.4	17	4.5	5.5	14	14.2	9.7
55-64 YEARS	75	15.9	15.1	50	13.5	13.7	25	24.7	19.9
65 AND OVER	319	50.1	50.5	228	47.1	47.6	91	59.7	59.3
15. PLACE OF DEATH									
HOSPITAL	330	68.9	75.4	234	71.8	76.6	96	62.7	72.6
OTHER INSTITUTION	55	11.5	11.6	34	10.4	11.5	21	13.7	11.9
HOME OR NON-INSTITUTION	94	19.6	13.0	58	17.8	12.0	36	23.5	15.5
16. OCCURRENCE									
TOTAL	334	0.6	0.6	226	0.5	0.5	108	0.8	0.8
TO RESIDENTS	303	90.7	92.5	206	91.2	92.5	97	89.8	92.4
OTHER EVENTS									
17. MARRIAGES	253	5.5	4.7						
18. DIVORCES AND ANNULMENTS	215	4.7	4.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ROBESON COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	108017	1.7	1.7	41070	0.8	0.8	66947	4.3	4.3
MALES	50739	47.0	47.3	19617	47.8	47.8	31122	46.5	47.0
FEMALES	57278	53.0	52.7	21453	52.2	52.2	35825	53.5	53.0
2. NATURAL INCREASE	841	7.8	7.8	25	0.6	0.5	816	12.2	12.3
LIVE BIRTHS									
3. TOTAL	1849	17.1	16.8	469	11.4	10.8	1380	20.6	20.5
MALES	914	8.5	8.4	243	5.9	5.4	671	10.0	10.3
FEMALES	935	8.7	8.3	226	5.5	5.3	709	10.6	10.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1679	90.8	95.2	425	90.6	95.1	1254	90.9	95.3
PHYSICIAN NOT IN HOSPITAL	4	0.2	0.2	1	0.2	0.2	3	0.2	0.3
#CERTIFIED NURSE MIDWIFE	162	8.8	4.4	42	9.0	4.5	120	8.7	4.3
PERMITTED MIDWIFE	1	0.1	0.0	0	0.0	0.0	1	0.1	0.0
5. PREMATURE BIRTHS	187	10.1	9.5	32	6.8	6.8	155	11.2	10.3
6. OUT OF WEDLOCK	893	48.3	42.9	90	19.2	17.0	803	58.2	51.2
7. OCCURRENCE									
TOTAL	1315	1.3	1.6	389	0.6	0.7	926	2.9	3.6
TO RESIDENTS	1224	93.1	91.2	320	82.3	80.4	904	97.6	95.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	29	15.6	17.5	3	6.4	16.9	26	18.7	17.7
9. FETAL DEATHS	13	7.0	9.3	2	4.2	8.7	11	7.9	9.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	12	92.3	95.2	2	100.0	100.0	10	90.9	93.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.4	0	0.0	0.0	0	0.0	3.1
#CERTIFIED NURSE MIDWIFE	1	7.7	1.2	0	0.0	0.0	1	9.1	1.5
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	53.8	46.4	1	50.0	15.8	6	54.5	55.4
10. NEONATAL (UNDER 28 DAYS)	16	8.7	8.3	1	2.1	8.3	15	10.9	8.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	12	6.5	5.1	2	4.3	4.2	10	7.3	5.4
12. INFANT DEATHS (UNDER 1 YEAR)	28	15.1	13.3	3	6.4	12.4	25	18.1	13.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1008	9.3	8.9	444	10.8	10.2	564	8.4	8.2
MALES	578	11.4	10.4	253	12.9	11.2	325	10.4	9.9
FEMALES	430	7.5	7.6	191	8.9	9.3	239	6.7	6.6
14. AGE									
00-04 YEARS	34	4.0	3.4	3	1.2	2.4	31	5.1	3.7
05-14 YEARS	6	0.3	0.4	0	0.0	0.2	6	0.4	0.5
15-24 YEARS	22	1.2	1.2	4	0.7	0.9	18	1.5	1.4
25-34 YEARS	33	1.9	2.1	5	0.8	1.0	28	2.5	2.7
35-44 YEARS	40	2.7	3.3	10	1.7	2.2	30	3.4	4.1
45-54 YEARS	69	7.0	6.8	30	6.4	5.6	39	7.5	7.9
55-64 YEARS	154	17.3	16.7	68	15.6	14.7	86	18.9	18.5
65 AND OVER	650	55.5	54.0	324	54.5	52.1	326	56.6	55.9
15. PLACE OF DEATH									
HOSPITAL	650	64.5	66.4	292	65.8	65.8	358	63.5	66.9
OTHER INSTITUTION	176	17.5	15.9	72	16.2	17.6	104	18.4	14.6
HOME OR NON-INSTITUTION	182	18.1	17.6	80	18.0	16.5	102	18.1	18.5
16. OCCURRENCE									
TOTAL	860	1.5	1.6	406	0.9	1.0	454	3.2	3.5
TO RESIDENTS	727	84.5	81.4	334	82.3	76.7	393	86.6	85.4
OTHER EVENTS									
17. MARRIAGES	375	3.5	3.3						
18. DIVORCES AND ANNULMENTS	365	3.4	3.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ROCKINGHAM COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	86483	1.3	1.4	68862	1.4	1.4	17621	1.1	1.1
MALES	41281	47.7	47.8	33155	48.1	48.1	8126	46.1	46.5
FEMALES	45202	52.3	52.2	35707	51.9	51.9	9495	53.9	53.5
2. NATURAL INCREASE	327	3.8	3.4	224	3.3	2.8	103	5.8	5.4
LIVE BIRTHS									
3. TOTAL	1175	13.6	13.0	889	12.9	12.4	286	16.2	15.5
MALES	568	6.6	6.6	429	6.2	6.3	139	7.9	7.9
FEMALES	607	7.0	6.4	460	6.7	6.1	147	8.3	7.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1164	99.1	99.4	883	99.3	99.4	281	98.3	99.3
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	0	0.0	0.0	1	0.3	0.1
#CERTIFIED NURSE MIDWIFE	5	0.4	0.2	5	0.6	0.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	98	8.3	7.2	55	6.2	5.8	43	15.0	11.4
6. OUT OF WEDLOCK	301	25.6	23.6	118	13.3	11.5	183	64.0	60.6
7. OCCURRENCE									
TOTAL	889	0.9	0.9	607	0.9	0.8	282	0.9	0.9
TO RESIDENTS	746	83.9	88.1	513	84.5	89.4	233	82.6	85.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	18	15.2	16.5	10	11.2	13.2	8	27.3	26.5
9. FETAL DEATHS	13	10.9	9.9	6	6.7	9.2	7	23.9	12.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	12	92.3	92.9	6	100.0	92.3	6	85.7	94.1
PHYSICIAN NOT IN HOSPITAL	1	7.7	3.6	0	0.0	2.6	1	14.3	5.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	53.8	42.9	0	0.0	23.1	7	100.0	88.2
10. NEONATAL (UNDER 28 DAYS)	5	4.3	6.6	4	4.5	4.0	1	3.5	14.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	7	6.0	4.3	6	6.8	2.9	1	3.5	8.8
12. INFANT DEATHS (UNDER 1 YEAR)	12	10.2	10.9	10	11.2	6.9	2	7.0	23.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	848	9.8	9.7	665	9.7	9.6	183	10.4	10.1
MALES	457	11.1	10.8	357	10.8	10.6	100	12.3	11.7
FEMALES	391	8.7	8.7	308	8.6	8.6	83	8.7	8.8
14. AGE									
00-04 YEARS	13	2.4	2.8	11	2.7	2.0	2	1.6	5.2
05-14 YEARS	5	0.4	0.4	4	0.5	0.4	1	0.3	0.4
15-24 YEARS	16	1.2	1.2	13	1.3	1.3	3	0.9	1.0
25-34 YEARS	16	1.1	1.4	10	0.9	1.2	6	2.0	2.1
35-44 YEARS	27	2.2	2.5	20	2.0	2.1	7	2.9	4.0
45-54 YEARS	47	5.0	5.6	30	3.8	4.7	17	11.1	10.2
55-64 YEARS	114	13.2	14.3	87	12.0	12.7	27	19.0	22.8
65 AND OVER	610	52.8	51.3	490	50.2	49.7	120	66.8	59.7
15. PLACE OF DEATH									
HOSPITAL	555	65.4	66.7	430	64.7	65.6	125	68.3	70.5
OTHER INSTITUTION	115	13.6	14.6	91	13.7	15.6	24	13.1	11.3
HOME OR NON-INSTITUTION	178	21.0	18.7	144	21.7	18.9	34	18.6	18.2
16. OCCURRENCE									
TOTAL	662	1.1	1.2	498	1.1	1.2	164	1.2	1.2
TO RESIDENTS	591	89.3	90.3	447	89.8	91.1	144	87.8	87.7
OTHER EVENTS									
17. MARRIAGES	815	9.4	9.3						
18. DIVORCES AND ANNULMENTS	445	5.1	4.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ROWAN COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE¤ 1988	RATE¤ 84-88	NUMBER 1988	RATE¤ 1988	RATE¤ 84-88	NUMBER 1988	RATE¤ 1988	RATE¤ 84-88
POPULATION									
1. TOTAL	106517	1.6	1.6	89604	1.8	1.8	16913	1.1	1.1
MALES	51166	48.0	48.2	43217	48.2	48.3	7949	47.0	47.5
FEMALES	55351	52.0	51.8	46387	51.8	51.7	8964	53.0	52.5
2. NATURAL INCREASE	356	3.3	3.3	197	2.2	2.2	159	9.4	9.2
LIVE BIRTHS									
3. TOTAL	1455	13.7	13.5	1101	12.3	12.3	354	20.9	19.5
MALES	724	6.8	6.8	559	6.2	6.4	165	9.8	9.2
FEMALES	731	6.9	6.6	542	6.0	5.9	189	11.2	10.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1446	99.4	99.3	1093	99.3	99.4	353	99.7	99.0
PHYSICIAN NOT IN HOSPITAL	2	0.1	0.2	1	0.1	0.1	1	0.3	0.5
#CERTIFIED NURSE MIDWIFE	7	0.5	0.4	7	0.6	0.5	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	118	8.1	7.5	71	6.4	6.0	47	13.3	12.3
6. OUT OF WEDLOCK	359	24.7	21.1	139	12.6	9.4	220	62.1	59.2
7. OCCURRENCE									
TOTAL	1122	1.1	1.1	832	1.3	1.3	290	0.9	0.9
TO RESIDENTS	1031	91.9	91.8	759	91.2	90.7	272	93.8	94.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	23	15.7	16.0	17	15.3	13.5	6	16.9	23.9
9. FETAL DEATHS	11	7.5	9.8	9	8.1	8.3	2	5.6	14.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	11	100.0	98.6	9	100.0	100.0	2	100.0	95.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.4	0	0.0	0.0	0	0.0	4.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	36.4	39.1	2	22.2	20.0	2	100.0	75.0
10. NEONATAL (UNDER 28 DAYS)	12	8.2	6.3	8	7.3	5.2	4	11.3	9.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	8	5.5	4.9	6	5.5	4.3	2	5.7	6.7
12. INFANT DEATHS (UNDER 1 YEAR)	20	13.7	11.1	14	12.7	9.5	6	16.9	16.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1099	10.3	10.1	904	10.1	10.1	195	11.5	10.3
MALES	600	11.7	11.7	486	11.2	11.6	114	14.3	12.2
FEMALES	499	9.0	8.7	418	9.0	8.7	81	9.0	8.6
14. AGE									
00-04 YEARS	20	3.1	2.7	14	2.7	2.2	6	4.9	4.8
05-14 YEARS	3	0.2	0.3	2	0.2	0.3	1	0.4	0.4
15-24 YEARS	11	0.7	1.1	10	0.8	1.2	1	0.3	0.7
25-34 YEARS	16	1.0	1.1	13	0.9	1.0	3	1.1	1.5
35-44 YEARS	39	2.6	2.3	23	1.8	1.8	16	7.4	4.9
45-54 YEARS	67	6.0	6.1	55	5.7	5.4	12	8.5	10.7
55-64 YEARS	138	12.3	13.1	105	10.5	11.9	33	26.0	22.0
65 AND OVER	605	47.5	47.7	682	45.3	46.3	123	65.6	58.4
15. PLACE OF DEATH									
HOSPITAL	607	55.2	59.0	502	55.5	59.0	105	53.8	58.7
OTHER INSTITUTION	250	22.7	21.2	216	23.9	21.5	34	17.4	20.0
HOME OR NON-INSTITUTION	242	22.0	19.8	186	20.6	19.5	56	28.7	21.3
16. OCCURRENCE									
TOTAL	1185	2.0	2.1	959	2.2	2.2	226	1.6	1.6
TO RESIDENTS	844	71.2	70.7	681	71.0	70.9	163	72.1	69.6
OTHER EVENTS									
17. MARRIAGES	843	7.9	8.3						
18. DIVORCES AND ANNULMENTS	386	3.6	3.8						

¤ SEE DEFINITIONS AND FORMULAS (SECTION VII)
ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

RUTHERFORD COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	57810	0.9	0.9	50205	1.0	1.0	7605	0.5	0.5
MALES	27425	47.4	47.6	24010	47.8	47.9	3415	44.9	45.6
FEMALES	30385	52.6	52.4	26195	52.2	52.1	4190	55.1	54.4
2. NATURAL INCREASE	177	3.1	2.7	83	1.7	1.8	94	12.4	8.8
LIVE BIRTHS									
3. TOTAL	771	13.3	12.8	622	12.4	12.2	149	19.6	16.5
MALES	368	6.4	6.4	297	5.9	6.1	71	9.3	8.5
FEMALES	403	7.0	6.4	325	6.5	6.1	78	10.3	8.1
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	763	99.0	98.8	614	98.7	98.6	149	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.2	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	4	0.5	0.7	4	0.6	0.9	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	67	8.7	7.8	44	7.1	6.3	23	15.4	15.2
6. OUT OF WEDLOCK	203	26.3	21.9	96	15.4	13.0	107	71.8	65.6
7. OCCURRENCE									
TOTAL	747	0.8	0.7	593	0.9	0.9	154	0.5	0.4
TO RESIDENTS	647	86.6	86.3	506	85.3	84.9	141	91.6	93.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	20	25.6	22.2	13	20.8	20.5	7	45.2	30.0
9. FETAL DEATHS	10	12.8	14.6	4	6.4	13.0	6	38.7	22.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	100.0	4	100.0	100.0	6	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	8	80.0	44.4	3	75.0	32.5	5	83.3	78.6
10. NEONATAL (UNDER 28 DAYS)	10	13.0	7.7	9	14.5	7.6	1	6.7	8.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	3.9	1.1	2	3.3	1.0	1	6.8	1.6
12. INFANT DEATHS (UNDER 1 YEAR)	13	16.9	8.8	11	17.7	8.6	2	13.4	9.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	594	10.3	10.1	539	10.7	10.4	55	7.2	7.8
MALES	309	11.3	11.4	277	11.5	11.7	32	9.4	9.0
FEMALES	285	9.4	8.9	262	10.0	9.3	23	5.5	6.7
14. AGE									
00-04 YEARS	16	4.1	2.1	14	4.3	2.0	2	3.1	2.5
05-14 YEARS	5	0.6	0.4	4	0.6	0.4	1	0.7	0.6
15-24 YEARS	8	0.9	1.0	8	1.1	1.1	0	0.0	0.4
25-34 YEARS	13	1.5	1.7	10	1.4	1.6	3	2.4	2.7
35-44 YEARS	18	2.3	2.3	16	2.3	2.1	2	2.1	3.6
45-54 YEARS	30	4.8	5.5	27	4.8	5.1	3	4.8	8.8
55-64 YEARS	82	13.9	14.4	73	13.6	14.4	9	16.2	15.0
65 AND OVER	422	48.1	48.2	387	48.6	48.5	35	43.9	44.7
15. PLACE OF DEATH									
HOSPITAL	355	59.8	66.9	326	60.5	66.9	29	52.7	66.9
OTHER INSTITUTION	111	18.7	17.7	100	18.6	17.8	11	20.0	16.2
HOME OR NON-INSTITUTION	128	21.5	15.4	113	21.0	15.2	15	27.3	16.9
16. OCCURRENCE									
TOTAL	478	0.8	0.9	438	1.0	1.0	40	0.3	0.4
TO RESIDENTS	442	92.5	90.4	407	92.9	91.5	35	87.5	81.7
OTHER EVENTS									
17. MARRIAGES	368	6.4	6.2						
18. DIVORCES AND ANNULMENTS	309	5.3	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SAMPSON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	50892	0.8	0.8	33327	0.7	0.7	17565	1.1	1.2
MALES	24285	47.7	47.9	16038	48.1	48.2	8247	47.0	47.3
FEMALES	26607	52.3	52.1	17289	51.9	51.8	9318	53.0	52.7
2. NATURAL INCREASE	96	1.9	1.9	5	0.2	0.1	91	5.2	5.[illegible]
LIVE BIRTHS									
3. TOTAL	645	12.7	12.2	370	11.1	10.9	275	15.7	14.5
MALES	304	6.0	6.2	175	5.3	5.6	129	7.3	7.2
FEMALES	341	6.7	6.0	195	5.9	5.2	146	8.3	7.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	642	99.5	99.4	369	99.7	99.8	273	99.3	98.9
PHYSICIAN NOT IN HOSPITAL	2	0.3	0.3	0	0.0	0.1	2	0.7	0.5
#CERTIFIED NURSE MIDWIFE	1	0.2	0.1	1	0.3	0.2	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	41	6.4	8.3	14	3.8	6.1	27	9.8	11.4
6. OUT OF WEDLOCK	196	30.4	28.1	36	9.7	9.1	160	58.2	54.2
7. OCCURRENCE									
TOTAL	540	0.6	0.6	289	0.4	0.4	251	0.8	0.8
TO RESIDENTS	472	87.4	88.5	244	84.4	86.7	228	90.8	90.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	15	23.0	16.5	6	16.0	12.9	9	32.4	21.4
9. FETAL DEATHS	8	12.3	7.7	5	13.3	6.2	3	10.8	9.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	100.0	95.8	5	100.0	100.0	3	100.0	92.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE-MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	12.5	45.8	1	20.0	27.3	0	0.0	61.5
10. NEONATAL (UNDER 28 DAYS)	7	10.9	8.8	1	2.7	6.8	6	21.8	11.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	3.1	2.3	0	0.0	0.6	2	7.4	4.7
12. INFANT DEATHS (UNDER 1 YEAR)	9	14.0	11.1	1	2.7	7.3	8	29.1	16.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	549	10.8	10.3	365	11.0	10.8	184	10.5	9.5
MALES	309	12.7	11.8	212	13.2	12.2	97	11.8	11.2
FEMALES	240	9.0	8.9	153	8.8	9.4	87	9.3	8.0
14. AGE									
00-04 YEARS	12	3.5	2.6	1	0.5	1.6	11	8.0	4.0
05-14 YEARS	5	0.7	0.4	3	0.7	0.4	2	0.6	0.4
15-24 YEARS	12	1.6	1.1	7	1.5	1.2	5	1.7	1.1
25-34 YEARS	11	1.4	1.8	4	0.8	1.5	7	2.6	2.4
35-44 YEARS	24	3.4	2.9	12	2.5	2.0	12	5.3	4.8
45-54 YEARS	31	5.7	6.3	16	4.1	5.4	15	9.8	8.6
55-64 YEARS	77	15.5	15.9	50	14.6	14.0	27	17.4	20.1
65 AND OVER	377	53.6	52.2	272	54.9	53.9	105	50.3	48.3
15. PLACE OF DEATH									
HOSPITAL	324	59.0	58.9	222	60.8	60.0	102	55.4	56.7
OTHER INSTITUTION	109	19.9	17.6	67	18.4	17.7	42	22.8	17.5
HOME OR NON-INSTITUTION	116	21.1	23.4	76	20.8	22.3	40	21.7	25.8
16. OCCURRENCE									
TOTAL	406	0.7	0.7	270	0.6	0.6	136	1.0	1.0
TO RESIDENTS	363	89.4	88.1	243	90.0	87.6	120	88.2	89.0
OTHER EVENTS									
17. MARRIAGES	327	6.4	6.2						
18. DIVORCES AND ANNULMENTS	181	3.6	3.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SCOTLAND COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	34702	0.5	0.5	19477	0.4	0.4	15225	1.0	1.0
MALES	16458	47.4	47.6	9496	48.8	48.7	6962	45.7	46.1
FEMALES	18244	52.6	52.4	9981	51.2	51.3	8263	54.3	53.9
2. NATURAL INCREASE	211	6.1	5.9	47	2.4	2.6	164	10.8	10.2
LIVE BIRTHS									
3. TOTAL	534	15.4	15.1	226	11.6	12.1	308	20.2	19.0
MALES	290	8.4	7.7	124	6.4	6.2	166	10.9	9.8
FEMALES	244	7.0	7.4	102	5.2	6.0	142	9.3	9.2
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	532	99.6	99.8	225	99.6	99.7	307	99.7	99.9
PHYSICIAN NOT IN HOSPITAL	1	0.2	0.0	0	0.0	0.0	1	0.3	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	59	11.0	9.2	20	8.8	7.8	39	12.7	10.4
6. OUT OF WEDLOCK	243	45.5	40.1	45	19.9	17.8	198	64.3	58.5
7. OCCURRENCE									
TOTAL	857	0.9	1.0	298	0.5	0.5	559	1.8	2.0
TO RESIDENTS	459	53.6	51.6	184	61.7	61.8	275	49.2	46.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	14	25.7	21.4	1	4.4	10.3	13	41.0	30.4
9. FETAL DEATHS	10	18.4	14.2	1	4.4	6.0	9	28.4	20.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	97.3	1	100.0	100.0	9	100.0	96.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	40.0	56.8	0	0.0	14.3	4	44.4	66.7
10. NEONATAL (UNDER 28 DAYS)	4	7.5	7.4	0	0.0	4.3	4	13.0	9.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	3.8	5.1	0	0.0	2.6	2	6.6	7.1
12. INFANT DEATHS (UNDER 1 YEAR)	6	11.2	12.4	0	0.0	6.9	6	19.5	16.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	323	9.3	9.2	179	9.2	9.5	144	9.5	8.8
MALES	168	10.2	10.4	95	10.0	10.6	73	10.5	10.1
FEMALES	155	8.5	8.1	84	8.4	8.5	71	8.6	7.7
14. AGE									
00-04 YEARS	6	2.3	3.2	0	0.0	1.6	6	4.5	4.7
05-14 YEARS	1	0.2	0.3	0	0.0	0.3	1	0.3	0.3
15-24 YEARS	6	1.0	1.3	6	1.9	1.6	0	0.0	1.0
25-34 YEARS	7	1.3	1.5	2	0.7	1.2	5	2.0	1.9
35-44 YEARS	19	3.8	3.4	8	2.7	2.3	11	5.3	5.1
45-54 YEARS	24	7.2	7.3	11	4.8	6.2	13	12.2	9.7
55-64 YEARS	48	16.9	18.6	27	14.3	15.8	21	21.9	23.7
65 AND OVER	212	57.1	55.6	125	53.0	55.1	87	64.3	56.6
15. PLACE OF DEATH									
HOSPITAL	189	58.5	65.0	104	58.1	64.4	85	59.0	65.9
OTHER INSTITUTION	73	22.6	15.1	45	25.1	16.0	28	19.4	13.9
HOME OR NON-INSTITUTION	61	18.9	19.8	30	16.8	19.6	31	21.5	20.2
16. OCCURRENCE									
TOTAL	314	0.5	0.6	166	0.4	0.4	148	1.0	1.1
TO RESIDENTS	240	76.4	77.3	133	80.1	83.0	107	72.3	70.6
OTHER EVENTS									
17. MARRIAGES	133	3.8	3.7						
18. DIVORCES AND ANNULMENTS	174	5.0	3.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

STANLY COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	51045	0.8	0.8	44859	0.9	0.9	6186	0.4	0.4
MALES	24415	47.8	48.0	21556	48.1	48.1	2859	46.2	46.9
FEMALES	26630	52.2	52.0	23303	51.9	51.9	3327	53.8	53.1
2. NATURAL INCREASE	206	4.0	3.7	154	3.4	3.0	52	8.4	9.3
LIVE BIRTHS									
3. TOTAL	735	14.4	13.2	626	14.0	12.5	109	17.6	18.2
MALES	381	7.5	6.8	332	7.4	6.5	49	7.9	8.8
FEMALES	354	6.9	6.5	294	6.6	6.0	60	9.7	9.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	732	99.6	99.5	623	99.5	99.4	109	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	1	0.1	0.4	1	0.2	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	65	8.8	7.3	53	8.5	6.2	12	11.0	12.6
6. OUT OF WEDLOCK	120	16.3	15.8	57	9.1	7.4	63	57.8	57.4
7. OCCURRENCE									
TOTAL	481	0.5	0.5	377	0.6	0.5	104	0.3	0.4
TO RESIDENTS	432	89.8	89.7	338	89.7	89.8	94	90.4	89.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	14	18.8	16.0	9	14.3	12.2	5	44.2	34.7
9. FETAL DEATHS	8	10.8	9.8	4	6.3	7.2	4	35.4	22.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	100.0	100.0	4	100.0	100.0	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	25.0	21.2	1	25.0	20.0	1	25.0	23.1
10. NEONATAL (UNDER 28 DAYS)	6	8.2	6.3	5	8.0	5.1	1	9.2	12.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.4	0	0.0	1.8	0	0.0	5.4
12. INFANT DEATHS (UNDER 1 YEAR)	6	8.2	8.7	5	8.0	6.9	1	9.2	17.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	529	10.4	9.5	472	10.5	9.6	57	9.2	9.0
MALES	283	11.6	10.7	253	11.7	10.8	30	10.5	10.4
FEMALES	246	9.2	8.4	219	9.4	8.5	27	8.1	7.7
14. AGE									
00-04 YEARS	7	2.2	2.1	6	2.2	1.8	1	2.0	4.0
05-14 YEARS	2	0.3	0.3	2	0.4	0.3	0	0.0	0.2
15-24 YEARS	11	1.4	0.9	11	1.7	1.0	0	0.0	0.5
25-34 YEARS	15	1.9	1.4	13	1.9	1.2	2	1.9	2.5
35-44 YEARS	15	2.1	2.0	11	1.7	1.8	4	5.2	4.0
45-54 YEARS	37	6.7	5.2	32	6.3	4.8	5	10.9	9.7
55-64 YEARS	68	12.9	11.9	62	12.8	11.4	6	13.8	17.7
65 AND OVER	374	49.2	48.2	335	48.0	47.4	39	61.4	55.8
15. PLACE OF DEATH									
HOSPITAL	358	67.7	68.2	318	67.4	67.5	40	70.2	73.3
OTHER INSTITUTION	97	18.3	16.9	89	18.9	17.7	8	14.0	11.2
HOME OR NON-INSTITUTION	74	14.0	14.9	65	13.8	14.8	9	15.8	15.5
16. OCCURRENCE									
TOTAL	404	0.7	0.7	356	0.8	0.8	48	0.3	0.3
TO RESIDENTS	385	95.3	93.8	343	96.3	94.2	42	87.5	90.7
OTHER EVENTS									
17. MARRIAGES	310	6.1	6.9						
18. DIVORCES AND ANNULMENTS	174	3.4	3.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

STOKES COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	36487	0.6	0.6	34160	0.7	0.7	2327	0.1	0.2
MALES	17770	48.7	48.8	16603	48.6	48.7	1167	50.2	50.5
FEMALES	18717	51.3	51.2	17557	51.4	51.3	1160	49.8	49.5
2. NATURAL INCREASE	165	4.5	4.2	143	4.2	4.1	22	9.5	5.5
LIVE BIRTHS									
3. TOTAL	454	12.4	12.0	414	12.1	11.9	40	17.2	13.4
MALES	228	6.2	6.3	209	6.1	6.3	19	8.2	6.5
FEMALES	226	6.2	5.7	205	6.0	5.6	21	9.0	6.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	450	99.1	99.2	410	99.0	99.2	40	100.0	98.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	3	0.7	0.7	3	0.7	0.6	0	0.0	1.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	37	8.1	7.8	34	8.2	7.6	3	7.5	9.3
6. OUT OF WEDLOCK	62	13.7	11.2	39	9.4	8.0	23	57.5	50.6
7. OCCURRENCE									
TOTAL	95	0.1	0.1	80	0.1	0.1	15	0.0	0.0
TO RESIDENTS	90	94.7	88.3	75	93.8	87.2	15	100.0	95.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	13.1	11.1	6	14.4	12.0	0	0.0	0.0
9. FETAL DEATHS	4	8.7	5.5	4	9.6	6.0	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	4	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	0.0	0	0.0	0.0	0		
10. NEONATAL (UNDER 28 DAYS)	2	4.4	5.6	2	4.8	6.0	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	1.9	0	0.0	1.5	0	0.0	6.2
12. INFANT DEATHS (UNDER 1 YEAR)	2	4.4	7.4	2	4.8	7.5	0	0.0	6.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	289	7.9	7.8	271	7.9	7.8	18	7.7	7.9
MALES	145	8.2	9.1	138	8.3	9.2	7	6.0	8.2
FEMALES	144	7.7	6.6	133	7.6	6.5	11	9.5	7.7
14. AGE									
00-04 YEARS	3	1.3	1.6	3	1.4	1.6	0	0.0	1.3
05-14 YEARS	0	0.0	0.2	0	0.0	0.2	0	0.0	0.0
15-24 YEARS	5	0.9	1.3	4	0.7	1.3	1	2.3	1.7
25-34 YEARS	8	1.3	0.9	8	1.4	0.9	0	0.0	1.9
35-44 YEARS	9	1.6	1.8	9	1.7	1.7	0	0.0	2.5
45-54 YEARS	23	5.6	5.4	21	5.4	5.3	2	9.0	7.9
55-64 YEARS	39	12.9	13.5	35	12.3	13.0	4	22.6	21.4
65 AND OVER	202	52.8	51.3	191	52.7	51.2	11	54.2	53.6
15. PLACE OF DEATH									
HOSPITAL	199	68.9	70.7	184	67.9	70.5	15	83.3	72.9
OTHER INSTITUTION	34	11.8	10.7	34	12.5	10.8	0	0.0	8.3
HOME OR NON-INSTITUTION	56	19.4	18.7	53	19.6	18.6	3	16.7	18.8
16. OCCURRENCE									
TOTAL	164	0.3	0.3	151	0.3	0.4	13	0.1	0.1
TO RESIDENTS	147	89.6	85.3	135	89.4	85.2	12	92.3	86.7
OTHER EVENTS									
17. MARRIAGES	250	6.9	7.7						
18. DIVORCES AND ANNULMENTS	68	1.9	1.9						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SURRY COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	62110	1.0	1.0	58900	1.2	1.2	3210	0.2	0.2
MALES	29805	48.0	48.1	28228	47.9	48.0	1577	49.1	49.3
FEMALES	32305	52.0	51.9	30672	52.1	52.0	1633	50.9	50.7
2. NATURAL INCREASE	120	1.9	2.0	103	1.7	1.9	17	5.3	3.8
LIVE BIRTHS									
3. TOTAL	772	12.4	11.7	721	12.2	11.5	51	15.9	14.7
MALES	385	6.2	6.0	360	6.1	6.0	25	7.8	6.8
FEMALES	387	6.2	5.7	361	6.1	5.6	26	8.1	8.0
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	771	99.9	99.6	720	99.9	99.6	51	100.0	99.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	0.1	0.2	1	0.1	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	55	7.1	7.4	49	6.8	6.9	6	11.8	13.7
6. OUT OF WEDLOCK	106	13.7	12.5	80	11.1	10.1	26	51.0	46.2
7. OCCURRENCE									
TOTAL	700	0.7	0.7	661	1.0	0.9	39	0.1	0.1
TO RESIDENTS	487	69.6	67.8	457	69.1	66.9	30	76.9	83.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	12	15.5	16.9	10	13.8	16.0	2	39.2	28.9
9. FETAL DEATHS	4	5.2	7.5	4	5.5	7.4	0	0.0	8.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	4	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	1	25.0	29.6	1	25.0	24.0	0		100.0
10. NEONATAL (UNDER 28 DAYS)	8	10.4	9.5	6	8.3	8.6	2	39.2	20.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	7	9.2	5.6	6	8.4	5.4	1	20.4	8.5
12. INFANT DEATHS (UNDER 1 YEAR)	15	19.4	15.0	12	16.6	14.0	3	58.8	29.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	652	10.5	9.7	618	10.5	9.6	34	10.6	10.9
MALES	367	12.3	11.2	349	12.4	11.2	18	11.4	12.2
FEMALES	285	8.8	8.2	269	8.8	8.2	16	9.8	9.7
14. AGE									
00-04 YEARS	17	4.4	3.0	14	3.9	2.8	3	13.0	5.7
05-14 YEARS	2	0.2	0.2	2	0.3	0.3	0	0.0	0.0
15-24 YEARS	6	0.6	0.7	6	0.7	0.7	0	0.0	0.0
25-34 YEARS	15	1.5	1.3	13	1.4	1.2	2	3.6	2.5
35-44 YEARS	25	2.9	2.4	21	2.5	2.2	4	10.0	5.8
45-54 YEARS	39	5.6	5.0	37	5.5	4.6	2	6.8	12.2
55-64 YEARS	93	14.7	13.9	90	14.9	13.5	3	10.3	22.8
65 AND OVER	455	50.5	48.8	435	50.5	48.6	20	51.9	53.8
15. PLACE OF DEATH									
HOSPITAL	416	63.8	64.9	392	63.4	64.6	24	70.6	69.7
OTHER INSTITUTION	98	15.0	14.6	95	15.4	14.8	3	8.8	10.1
HOME OR NON-INSTITUTION	138	21.2	20.5	131	21.2	20.6	7	20.6	20.2
16. OCCURRENCE									
TOTAL	551	0.9	1.0	520	1.2	1.2	31	0.2	0.2
TO RESIDENTS	453	82.2	77.3	426	81.9	76.9	27	87.1	85.7
OTHER EVENTS									
17. MARRIAGES	594	9.6	9.8						
18. DIVORCES AND ANNULMENTS	268	4.3	4.0						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SWAIN COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	10518	0.2	0.2	7826	0.2	0.2	2692	0.2	0.2
MALES	4970	47.3	47.6	3703	47.3	47.5	1267	47.1	47.9
FEMALES	5548	52.7	52.4	4123	52.7	52.5	1425	52.9	52.1
2. NATURAL INCREASE	43	4.1	3.2	-22	-2.8	-3.2	65	24.1	21.4
LIVE BIRTHS									
3. TOTAL	201	19.1	16.0	102	13.0	10.6	99	36.8	31.5
MALES	111	10.6	8.7	57	7.3	5.7	54	20.1	17.4
FEMALES	90	8.6	7.2	45	5.8	4.9	45	16.7	14.0
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	197	98.0	98.2	100	98.0	98.3	97	98.0	98.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	16	8.0	7.4	7	6.9	6.2	9	9.1	8.5
6. OUT OF WEDLOCK	63	31.3	28.2	23	22.5	17.7	40	40.4	38.4
7. OCCURRENCE									
TOTAL	11	0.0	0.1	3	0.0	0.1	8	0.0	0.1
TO RESIDENTS	9	81.8	56.4	2	66.7	54.6	7	87.5	58.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	14.9	15.1	1	9.8	14.2	2	20.0	16.0
9. FETAL DEATHS	1	5.0	7.0	0	0.0	7.1	1	10.0	6.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	0		100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	100.0	66.7	0		33.3	1	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	2	10.0	8.2	1	9.8	7.2	1	10.1	9.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	5.0	3.5	0	0.0	2.4	1	10.2	4.6
12. INFANT DEATHS (UNDER 1 YEAR)	3	14.9	11.7	1	9.8	9.5	2	20.2	13.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	158	15.0	12.8	124	15.8	13.7	34	12.6	10.1
MALES	81	16.3	14.5	59	15.9	14.6	22	17.4	13.6
FEMALES	77	13.9	11.3	65	15.8	12.8	12	8.4	6.9
14. AGE									
00-04 YEARS	3	4.3	3.3	1	2.2	1.7	2	8.0	6.2
05-14 YEARS	0	0.0	0.3	0	0.0	0.2	0	0.0	0.4
15-24 YEARS	0	0.0	1.3	0	0.0	0.9	0	0.0	2.3
25-34 YEARS	2	1.3	2.4	2	1.7	1.9	0	0.0	3.7
35-44 YEARS	3	2.1	3.2	1	0.9	2.3	2	5.8	5.9
45-54 YEARS	12	11.1	7.1	11	12.9	7.6	1	4.4	5.2
55-64 YEARS	22	22.2	19.6	17	20.6	17.6	5	30.3	29.9
65 AND OVER	116	67.9	57.4	92	62.5	56.1	24	101.7	65.7
15. PLACE OF DEATH									
HOSPITAL	92	58.2	63.2	75	60.5	60.9	17	50.0	72.1
OTHER INSTITUTION	30	19.0	21.2	23	18.5	22.6	7	20.6	15.7
HOME OR NON-INSTITUTION	36	22.8	15.6	26	21.0	16.5	10	29.4	12.1
16. OCCURRENCE									
TOTAL	186	0.3	0.3	149	0.3	0.3	37	0.3	0.3
TO RESIDENTS	123	66.1	62.5	96	64.4	62.4	27	73.0	62.8
OTHER EVENTS									
17. MARRIAGES	150	14.3	16.8						
18. DIVORCES AND ANNULMENTS	40	3.8	3.5						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

TRANSYLVANIA COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	26188	0.4	0.4	24687	0.5	0.5	1501	0.1	0.1
MALES	12750	48.7	48.9	11930	48.3	48.5	820	54.6	55.0
FEMALES	13438	51.3	51.1	12757	51.7	51.5	681	45.4	45.0
2. NATURAL INCREASE	68	2.6	2.6	53	2.1	2.4	15	10.0	6.7
LIVE BIRTHS									
3. TOTAL	305	11.6	11.2	278	11.3	11.1	27	18.0	13.6
MALES	160	6.1	5.9	144	5.8	5.8	16	10.7	7.2
FEMALES	145	5.5	5.3	134	5.4	5.3	11	7.3	6.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	299	98.0	97.8	272	97.8	97.7	27	100.0	99.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	3	1.0	0.9	3	1.1	1.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	15	4.9	5.3	14	5.0	5.3	1	3.7	4.9
6. OUT OF WEDLOCK	44	14.4	13.9	27	9.7	11.5	17	63.0	46.1
7. OCCURRENCE									
TOTAL	296	0.3	0.3	273	0.4	0.4	23	0.1	0.1
TO RESIDENTS	262	88.5	88.5	239	87.5	87.8	23	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	5	16.2	15.8	5	17.8	17.0	0	0.0	0.0
9. FETAL DEATHS	3	9.7	8.3	3	10.7	8.9	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	3	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	1	33.3	25.0	1	33.3	25.0	0		
10. NEONATAL (UNDER 28 DAYS)	2	6.6	7.6	2	7.2	8.2	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	4.2	0	0.0	4.5	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	2	6.6	11.8	2	7.2	12.7	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	237	9.0	8.6	225	9.1	8.7	12	8.0	6.9
MALES	127	10.0	9.6	123	10.3	9.8	4	4.9	6.5
FEMALES	110	8.2	7.6	102	8.0	7.6	8	11.7	7.4
14. AGE									
00-04 YEARS	2	1.2	2.5	2	1.3	2.6	0	0.0	0.0
05-14 YEARS	0	0.0	0.2	0	0.0	0.3	0	0.0	0.0
15-24 YEARS	1	0.2	0.9	1	0.3	0.9	0	0.0	0.5
25-34 YEARS	7	1.8	1.3	6	1.7	1.3	1	3.8	2.3
35-44 YEARS	5	1.4	2.3	4	1.2	2.2	1	5.6	4.9
45-54 YEARS	14	4.9	4.4	12	4.3	4.2	2	17.5	9.9
55-64 YEARS	30	10.9	9.9	28	10.5	9.4	2	26.0	24.2
65 AND OVER	178	42.0	41.1	172	41.6	40.7	6	55.6	55.0
15. PLACE OF DEATH									
HOSPITAL	115	48.5	58.0	109	48.4	58.1	6	50.0	55.8
OTHER INSTITUTION	70	29.5	23.5	66	29.3	23.4	4	33.3	25.0
HOME OR NON-INSTITUTION	52	21.9	18.5	50	22.2	18.5	2	16.7	19.2
16. OCCURRENCE									
TOTAL	190	0.3	0.3	179	0.4	0.4	11	0.1	0.1
TO RESIDENTS	176	92.6	89.8	165	92.2	89.5	11	100.0	95.3
OTHER EVENTS									
17. MARRIAGES	201	7.7	7.1						
18. DIVORCES AND ANNULMENTS	111	4.2	4.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

TYRRELL COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	4095	0.1	0.1	2656	0.1	0.1	1439	0.1	0.1
MALES	1912	46.7	46.9	1286	48.4	48.4	626	43.5	44.3
FEMALES	2183	53.3	53.1	1370	51.6	51.6	813	56.5	55.7
2. NATURAL INCREASE	4	1.0	3.1	1	0.4	-0.3	3	2.1	9.0
LIVE BIRTHS									
3. TOTAL	53	12.9	14.6	31	11.7	11.6	22	15.3	19.6
MALES	33	8.1	7.5	18	6.8	6.0	15	10.4	10.1
FEMALES	20	4.9	7.1	13	4.9	5.7	7	4.9	9.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	52	98.1	97.0	30	96.8	94.7	22	100.0	99.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.0	0	0.0	2.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	3	5.7	7.3	1	3.2	5.3	2	9.1	9.5
6. OUT OF WEDLOCK	16	30.2	34.7	4	12.9	8.6	12	54.5	61.5
7. OCCURRENCE									
TOTAL	1	0.0	0.0	1	0.0	0.0	0	0.0	0.0
TO RESIDENTS	1	100.0	100.0	1	100.0	100.0	0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	1	18.9	29.5	0	0.0	32.5	1	45.5	26.5
9. FETAL DEATHS	0	0.0	16.4	0	0.0	13.0	0	0.0	19.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		0.0
PERMITTED MIDWIFE	0		0.0	0		0.0	0		0.0
OUT OF WEDLOCK	0		40.0	0		0.0	0		66.7
10. NEONATAL (UNDER 28 DAYS)	1	18.9	13.3	0	0.0	19.7	1	45.5	6.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	10.1	0	0.0	13.4	0	0.0	6.8
12. INFANT DEATHS (UNDER 1 YEAR)	1	18.9	23.3	0	0.0	32.9	1	45.5	13.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	49	12.0	11.5	30	11.3	11.9	19	13.2	10.6
MALES	29	15.2	12.0	18	14.0	12.0	11	17.6	12.0
FEMALES	20	9.2	11.0	12	8.8	11.9	8	9.8	9.5
14. AGE									
00-04 YEARS	1	3.1	4.3	0	0.0	5.2	1	8.0	2.9
05-14 YEARS	0	0.0	0.6	0	0.0	0.0	0	0.0	1.5
15-24 YEARS	0	0.0	1.4	0	0.0	1.8	0	0.0	0.8
25-34 YEARS	2	3.3	1.9	0	0.0	1.0	2	8.6	3.3
35-44 YEARS	3	5.9	3.8	1	2.8	2.5	2	12.7	6.8
45-54 YEARS	1	2.6	6.7	1	3.8	4.7	0	0.0	10.5
55-64 YEARS	6	14.3	16.7	4	14.0	17.1	2	14.9	15.8
65 AND OVER	36	54.7	48.2	24	52.2	49.1	12	60.6	46.2
15. PLACE OF DEATH									
HOSPITAL	33	67.3	60.6	22	73.3	61.5	11	57.9	58.7
OTHER INSTITUTION	11	22.4	18.2	5	16.7	15.4	6	31.6	23.7
HOME OR NON-INSTITUTION	5	10.2	21.2	3	10.0	23.1	2	10.5	17.5
16. OCCURRENCE									
TOTAL	9	0.0	0.0	4	0.0	0.0	5	0.0	0.0
TO RESIDENTS	9	100.0	85.2	4	100.0	84.6	5	100.0	86.2
OTHER EVENTS									
17. MARRIAGES	23	5.6	5.2						
18. DIVORCES AND ANNULMENTS	5	1.2	1.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

UNION COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	84007	1.3	1.3	70749	1.4	1.4	13258	0.8	0.8
MALES	40799	48.6	48.7	34602	48.9	48.9	6197	46.7	47.3
FEMALES	43208	51.4	51.3	36147	51.1	51.1	7061	53.3	52.7
2. NATURAL INCREASE	662	7.9	7.5	450	6.4	6.0	212	16.0	14.9
LIVE BIRTHS									
3. TOTAL	1281	15.2	14.6	950	13.4	13.0	331	25.0	22.8
MALES	681	8.1	7.4	504	7.1	6.7	177	13.4	11.2
FEMALES	600	7.1	7.1	446	6.3	6.2	154	11.6	11.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1265	98.8	99.1	935	98.4	98.8	330	99.7	99.7
PHYSICIAN NOT IN HOSPITAL	3	0.2	0.2	2	0.2	0.2	1	0.3	0.1
#CERTIFIED NURSE MIDWIFE	7	0.5	0.3	7	0.7	0.4	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	95	7.4	7.4	51	5.4	5.8	44	13.3	12.0
6. OUT OF WEDLOCK	287	22.4	21.4	73	7.7	7.5	214	64.7	62.0
7. OCCURRENCE									
TOTAL	591	0.6	0.8	281	0.4	0.7	310	1.0	1.0
TO RESIDENTS	527	89.2	83.8	248	88.3	82.1	279	90.0	86.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	19	14.7	16.5	7	7.4	12.8	12	35.5	27.1
9. FETAL DEATHS	9	7.0	7.3	2	2.1	5.5	7	20.7	12.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	88.9	95.3	1	50.0	91.7	7	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	77.8	30.2	1	50.0	8.3	6	85.7	57.9
10. NEONATAL (UNDER 28 DAYS)	10	7.8	9.3	5	5.3	7.4	5	15.1	14.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	6	4.7	4.5	2	2.1	3.0	4	12.3	8.8
12. INFANT DEATHS (UNDER 1 YEAR)	16	12.5	13.7	7	7.4	10.4	9	27.2	23.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	619	7.4	7.1	500	7.1	6.9	119	9.0	7.9
MALES	335	8.2	7.9	268	7.7	7.7	67	10.8	9.2
FEMALES	284	6.6	6.3	232	6.4	6.2	52	7.4	6.8
14. AGE									
00-04 YEARS	20	3.2	3.1	8	1.6	2.2	12	9.9	6.6
05-14 YEARS	1	0.1	0.2	0	0.0	0.2	1	0.4	0.2
15-24 YEARS	11	0.8	0.8	10	0.9	0.9	1	0.4	0.8
25-34 YEARS	18	1.3	0.9	13	1.1	0.7	5	2.3	2.0
35-44 YEARS	31	2.5	1.8	21	1.9	1.5	10	6.0	3.8
45-54 YEARS	59	6.5	5.6	42	5.2	4.7	17	16.7	12.1
55-64 YEARS	102	15.3	13.9	83	14.0	12.7	19	25.7	23.1
65 AND OVER	377	45.8	47.7	323	45.4	47.5	54	48.3	48.8
15. PLACE OF DEATH									
HOSPITAL	384	62.0	66.4	306	61.2	65.8	78	65.5	69.5
OTHER INSTITUTION	80	12.9	11.9	68	13.6	12.3	12	10.1	9.8
HOME OR NON-INSTITUTION	155	25.0	21.7	126	25.2	21.9	29	24.4	20.7
16. OCCURRENCE									
TOTAL	491	0.8	0.7	392	0.9	0.8	99	0.7	0.6
TO RESIDENTS	419	85.3	87.2	334	85.2	87.4	85	85.9	86.5
OTHER EVENTS									
17. MARRIAGES	440	5.2	5.5						
18. DIVORCES AND ANNULMENTS	280	3.3	3.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

VANCE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	39272	0.6	0.6	22201	0.5	0.5	17071	1.1	1.1
MALES	18589	47.3	47.5	10591	47.7	47.8	7998	46.9	47.2
FEMALES	20683	52.7	52.5	11610	52.3	52.2	9073	53.1	52.8
2. NATURAL INCREASE	193	4.9	4.1	-10	-0.5	0.1	203	11.9	9.2
LIVE BIRTHS									
3. TOTAL	633	16.1	14.9	247	11.1	11.5	386	22.6	19.3
MALES	329	8.4	7.8	131	5.9	6.1	198	11.6	10.0
FEMALES	304	7.7	7.1	116	5.2	5.4	188	11.0	9.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	629	99.4	99.5	247	100.0	99.6	382	99.0	99.4
PHYSICIAN NOT IN HOSPITAL	3	0.5	0.2	0	0.0	0.1	3	0.8	0.4
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.2	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	71	11.2	10.0	18	7.3	7.3	53	13.7	12.0
6. OUT OF WEDLOCK	272	43.0	37.8	25	10.1	8.8	247	64.0	59.8
7. OCCURRENCE									
TOTAL	614	0.6	0.6	265	0.4	0.5	349	1.1	1.0
TO RESIDENTS	415	67.6	63.4	168	63.4	60.5	247	70.8	66.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	12	18.7	19.9	6	24.1	18.3	6	15.3	21.1
9. FETAL DEATHS	7	10.9	11.0	2	8.0	10.4	5	12.8	11.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	85.7	96.9	2	100.0	100.0	4	80.0	94.7
PHYSICIAN NOT IN HOSPITAL	1	14.3	3.1	0	0.0	0.0	1	20.0	5.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	71.4	28.1	0	0.0	7.7	5	100.0	42.1
10. NEONATAL (UNDER 28 DAYS)	5	7.9	9.0	4	16.2	8.1	1	2.6	9.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	1.6	5.6	0	0.0	2.4	1	2.6	8.0
12. INFANT DEATHS (UNDER 1 YEAR)	6	9.5	14.6	4	16.2	10.5	2	5.2	17.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	440	11.2	10.8	257	11.6	11.3	183	10.7	10.1
MALES	251	13.5	12.0	143	13.5	11.9	108	13.5	12.0
FEMALES	189	9.1	9.7	114	9.8	10.8	75	8.3	8.3
14. AGE									
00-04 YEARS	9	3.4	3.7	4	3.0	2.0	5	3.7	5.3
05-14 YEARS	3	0.5	0.5	1	0.4	0.3	2	0.6	0.7
15-24 YEARS	8	1.3	1.6	3	1.0	1.4	5	1.6	1.7
25-34 YEARS	13	2.1	1.7	7	2.0	1.4	6	2.2	2.1
35-44 YEARS	16	2.9	3.1	7	2.1	2.5	9	4.1	4.0
45-54 YEARS	26	6.8	6.9	10	4.1	4.7	16	11.9	10.8
55-64 YEARS	52	13.8	17.1	22	9.1	13.8	30	22.2	23.0
65 AND OVER	313	57.8	54.2	203	57.5	55.0	110	58.3	52.8
15. PLACE OF DEATH									
HOSPITAL	233	53.0	56.5	113	44.0	51.6	120	65.6	63.7
OTHER INSTITUTION	93	21.1	19.6	77	30.0	26.2	16	8.7	10.2
HOME OR NON-INSTITUTION	114	25.9	23.8	67	26.1	22.2	47	25.7	26.1
16. OCCURRENCE									
TOTAL	416	0.7	0.7	231	0.5	0.5	185	1.3	1.3
TO RESIDENTS	326	78.4	77.1	190	82.3	80.8	136	73.5	72.6
OTHER EVENTS									
17. MARRIAGES	379	9.7	9.5						
18. DIVORCES AND ANNULMENTS	167	4.3	4.3						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WAKE COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	388502	6.0	5.8	300962	6.1	5.9	87540	5.6	5.4
MALES	189667	48.8	48.9	148160	49.2	49.3	41507	47.4	47.8
FEMALES	198835	51.2	51.1	152802	50.8	50.7	46033	52.6	52.2
2. NATURAL INCREASE	3799	9.8	8.8	2542	8.4	7.9	1257	14.4	11.9
LIVE BIRTHS									
3. TOTAL	6157	15.8	14.9	4257	14.1	13.6	1900	21.7	19.2
MALES	3091	8.0	7.5	2136	7.1	6.9	955	10.9	9.5
FEMALES	3066	7.9	7.4	2121	7.0	6.7	945	10.8	9.7
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	5962	96.8	96.4	4080	95.8	95.3	1882	99.1	99.1
PHYSICIAN NOT IN HOSPITAL	9	0.1	0.1	5	0.1	0.1	4	0.2	0.1
#CERTIFIED NURSE MIDWIFE	176	2.9	3.4	164	3.9	4.5	12	0.6	0.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	389	6.3	7.0	198	4.7	5.1	191	10.1	11.3
6. OUT OF WEDLOCK	1239	20.1	18.1	288	6.8	5.9	951	50.1	47.2
7. OCCURRENCE									
TOTAL	7066	7.2	6.7	5013	7.6	7.1	2053	6.5	6.0
TO RESIDENTS	5883	83.3	83.8	4046	80.7	82.0	1837	89.5	88.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	94	15.1	18.1	47	11.0	13.9	47	24.4	28.1
9. FETAL DEATHS	54	8.7	8.6	24	5.6	6.6	30	15.5	13.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	54	100.0	97.4	24	100.0	97.6	30	100.0	97.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.3	0	0.0	1.6	0	0.0	0.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.4	0	0.0	0.8	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	17	31.5	31.9	1	4.2	13.4	16	53.3	53.7
10. NEONATAL (UNDER 28 DAYS)	40	6.5	9.6	23	5.4	7.3	17	8.9	15.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	22	3.6	3.6	11	2.6	2.6	11	5.8	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	62	10.1	13.2	34	8.0	9.9	28	14.7	21.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	2358	6.1	6.1	1715	5.7	5.8	643	7.3	7.3
MALES	1239	6.5	6.5	876	5.9	5.9	363	8.7	8.5
FEMALES	1119	5.6	5.7	839	5.5	5.6	280	6.1	6.2
14. AGE									
00-04 YEARS	75	3.0	3.5	41	2.3	2.6	34	5.0	5.9
05-14 YEARS	15	0.3	0.3	9	0.3	0.2	6	0.4	0.3
15-24 YEARS	51	0.7	0.7	28	0.5	0.6	23	1.3	0.8
25-34 YEARS	76	1.0	0.9	45	0.8	0.7	31	1.7	1.5
35-44 YEARS	123	2.1	1.9	69	1.4	1.4	54	4.7	4.1
45-54 YEARS	161	3.9	4.6	114	3.3	3.8	47	6.9	8.3
55-64 YEARS	308	10.3	11.4	214	8.7	9.9	94	17.6	18.0
65 AND OVER	1549	47.5	48.3	1195	46.3	47.1	354	52.4	52.8
15. PLACE OF DEATH									
HOSPITAL	1506	63.9	64.6	1056	61.6	63.0	450	70.0	68.7
OTHER INSTITUTION	402	17.0	17.1	326	19.0	19.3	76	11.8	11.5
HOME OR NON-INSTITUTION	450	19.1	18.3	333	19.4	17.7	117	18.2	19.8
16. OCCURRENCE									
TOTAL	2700	4.7	4.6	2011	4.6	4.5	689	4.9	5.0
TO RESIDENTS	2122	78.6	78.9	1553	77.2	77.6	569	82.6	82.7
OTHER EVENTS									
17. MARRIAGES	3090	8.0	8.0						
18. DIVORCES AND ANNULMENTS	2043	5.3	5.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WARREN COUNTY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
1. TOTAL	16625	0.3	0.3	6045	0.1	0.1	10580	0.7	0.7
MALES	7837	47.1	47.5	2904	48.0	48.1	4933	46.6	47.2
FEMALES	8788	52.9	52.5	3141	52.0	51.9	5647	53.4	52.8
2. NATURAL INCREASE	18	1.1	1.4	-25	-4.1	-3.8	43	4.1	4.3
LIVE BIRTHS									
3. TOTAL	237	14.3	14.2	56	9.3	11.1	181	17.1	15.9
MALES	136	8.2	7.5	33	5.5	5.9	103	9.7	8.4
FEMALES	101	6.1	6.7	23	3.8	5.2	78	7.4	7.5
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	234	98.7	99.5	55	98.2	99.1	179	98.9	99.6
PHYSICIAN NOT IN HOSPITAL	2	0.8	0.3	0	0.0	0.3	2	1.1	0.4
#CERTIFIED NURSE MIDWIFE	1	0.4	0.2	1	1.8	0.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	18	7.6	10.5	0	0.0	3.3	18	9.9	13.3
6. OUT OF WEDLOCK	110	46.4	41.5	6	10.7	10.0	104	57.5	53.9
7. OCCURRENCE									
TOTAL	2	0.0	0.0	0	0.0	0.0	2	0.0	0.0
TO RESIDENTS	2	100.0	100.0	0		100.0	2	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	16.6	21.1	1	17.5	9.1	3	16.3	25.8
9. FETAL DEATHS	4	16.6	11.8	1	17.5	3.0	3	16.3	15.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	92.9	1	100.0	100.0	3	100.0	92.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	7.1	0	0.0	0.0	0	0.0	7.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	75.0	64.3	0	0.0	0.0	3	100.0	69.2
10. NEONATAL (UNDER 28 DAYS)	0	0.0	9.4	0	0.0	6.1	0	0.0	10.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	16.9	9.5	0	0.0	3.1	4	22.1	12.0
12. INFANT DEATHS (UNDER 1 YEAR)	4	16.9	18.8	0	0.0	9.1	4	22.1	22.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	219	13.2	12.8	81	13.4	14.9	138	13.0	11.6
MALES	120	15.3	15.4	43	14.8	18.0	77	15.6	13.8
FEMALES	99	11.3	10.4	38	12.1	12.0	61	10.8	9.6
14. AGE									
00-04 YEARS	4	3.7	4.2	0	0.0	1.9	4	5.2	5.0
05-14 YEARS	0	0.0	0.5	0	0.0	0.6	0	0.0	0.4
15-24 YEARS	5	2.2	1.0	3	4.7	2.1	2	1.2	0.6
25-34 YEARS	3	1.2	1.6	1	1.3	1.0	2	1.2	1.9
35-44 YEARS	6	2.8	4.3	2	2.6	3.4	4	2.9	4.9
45-54 YEARS	15	9.3	8.8	4	5.6	5.7	11	12.2	11.3
55-64 YEARS	41	22.0	15.2	12	13.8	11.7	29	29.1	18.3
65 AND OVER	145	52.7	56.0	59	44.9	55.0	86	59.8	57.0
15. PLACE OF DEATH									
HOSPITAL	128	58.4	58.0	53	65.4	54.8	75	54.3	60.3
OTHER INSTITUTION	36	16.4	16.5	12	14.8	21.9	24	17.4	12.6
HOME OR NON-INSTITUTION	55	25.1	25.5	16	19.8	23.3	39	28.3	27.1
16. OCCURRENCE									
TOTAL	82	0.1	0.2	27	0.1	0.1	55	0.4	0.4
TO RESIDENTS	71	86.6	84.0	22	81.5	83.6	49	89.1	84.3
OTHER EVENTS									
17. MARRIAGES	116	7.0	7.7						
18. DIVORCES AND ANNULMENTS	52	3.1	3.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WASHINGTON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	14639	0.2	0.2	8176	0.2	0.2	6463	0.4	0.4
MALES	6993	47.8	48.1	3896	47.7	47.8	3097	47.9	48.3
FEMALES	7646	52.2	51.9	4280	52.3	52.2	3366	52.1	51.7
2. NATURAL INCREASE	81	5.5	5.0	6	0.7	0.7	75	11.6	10.3
LIVE BIRTHS									
3. TOTAL	236	16.1	14.5	98	12.0	11.0	138	21.4	19.0
MALES	121	8.3	7.1	51	6.2	5.4	70	10.8	9.4
FEMALES	115	7.9	7.4	47	5.7	5.6	68	10.5	9.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	234	99.2	99.5	98	100.0	99.8	136	98.6	99.3
PHYSICIAN NOT IN HOSPITAL	1	0.4	0.2	0	0.0	0.0	1	0.7	0.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	20	8.5	8.5	9	9.2	6.3	11	8.0	10.1
6. OUT OF WEDLOCK	112	47.5	42.0	11	11.2	8.4	101	73.2	66.1
7. OCCURRENCE									
TOTAL	156	0.2	0.2	44	0.1	0.1	112	0.4	0.3
TO RESIDENTS	127	81.4	75.3	27	61.4	53.4	100	89.3	86.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	12	49.6	29.0	5	50.0	22.5	7	49.3	33.6
9. FETAL DEATHS	6	24.8	12.2	2	20.0	4.5	4	28.2	17.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	100.0	2	100.0	100.0	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	50.0	76.9	0	0.0	0.0	3	75.0	90.9
10. NEONATAL (UNDER 28 DAYS)	6	25.4	17.0	3	30.6	18.1	3	21.7	16.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	4.3	3.9	0	0.0	6.9	1	7.4	1.7
12. INFANT DEATHS (UNDER 1 YEAR)	7	29.7	20.8	3	30.6	24.9	4	29.0	17.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	155	10.6	9.5	92	11.3	10.3	63	9.7	8.6
MALES	87	12.4	11.6	50	12.8	12.6	37	11.9	10.4
FEMALES	68	8.9	7.6	42	9.8	8.2	26	7.7	6.9
14. AGE									
00-04 YEARS	8	7.2	4.3	4	7.7	4.8	4	6.8	4.0
05-14 YEARS	0	0.0	0.3	0	0.0	0.2	0	0.0	0.3
15-24 YEARS	2	0.9	1.6	1	0.9	2.2	1	0.9	1.0
25-34 YEARS	3	1.2	1.1	0	0.0	0.6	3	2.6	1.6
35-44 YEARS	5	2.4	2.6	1	0.8	2.0	4	4.5	3.5
45-54 YEARS	2	1.4	4.6	0	0.0	4.0	2	4.5	6.0
55-64 YEARS	20	15.6	14.7	12	14.1	11.7	8	18.5	20.4
65 AND OVER	115	65.0	56.9	74	61.8	53.7	41	71.6	63.3
15. PLACE OF DEATH									
HOSPITAL	117	75.5	77.1	71	77.2	76.6	46	73.0	77.8
OTHER INSTITUTION	22	14.2	11.8	11	12.0	11.8	11	17.5	11.8
HOME OR NON-INSTITUTION	16	10.3	11.1	10	10.9	11.6	6	9.5	10.4
16. OCCURRENCE									
TOTAL	119	0.2	0.2	79	0.2	0.1	40	0.3	0.3
TO RESIDENTS	96	80.7	83.1	61	77.2	80.1	35	87.5	87.5
OTHER EVENTS									
17. MARRIAGES	115	7.9	7.2						
18. DIVORCES AND ANNULMENTS	45	3.1	2.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WATAUGA COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	34672	0.5	0.5	34003	0.7	0.7	669	0.0	0.0
MALES	16923	48.8	48.9	16576	48.7	48.8	347	51.9	52.5
FEMALES	17749	51.2	51.1	17427	51.3	51.2	322	48.1	47.5
2. NATURAL INCREASE	125	3.6	4.7	119	3.5	4.7	6	9.0	3.7
LIVE BIRTHS									
3. TOTAL	367	10.6	11.1	359	10.6	11.1	8	12.0	9.2
MALES	195	5.6	5.6	192	5.6	5.6	3	4.5	4.3
FEMALES	172	5.0	5.5	167	4.9	5.5	5	7.5	4.9
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	365	99.5	96.8	357	99.4	96.8	8	100.0	96.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.3	0	0.0	0.3	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	0.3	2.3	1	0.3	2.3	0	0.0	3.3
PERMITTED MIDWIFE	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
5. PREMATURE BIRTHS	22	6.0	5.7	20	5.6	5.5	2	25.0	13.3
6. OUT OF WEDLOCK	30	8.2	8.6	30	8.4	8.4	0	0.0	20.0
7. OCCURRENCE									
TOTAL	780	0.8	0.8	770	1.2	1.1	10	0.0	0.0
TO RESIDENTS	338	43.3	50.4	332	43.1	50.2	6	60.0	68.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	16.2	14.1	6	16.6	14.3	0	0.0	0.0
9. FETAL DEATHS	3	8.1	6.8	3	8.3	6.9	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	92.3	3	100.0	92.3	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	7.7	0	0.0	7.7	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	15.4	0	0.0	15.4	0		
10. NEONATAL (UNDER 28 DAYS)	3	8.2	7.4	3	8.4	7.5	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.1	0	0.0	2.2	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	3	8.2	9.5	3	8.4	9.6	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	242	7.0	6.4	240	7.1	6.4	2	3.0	5.5
MALES	135	8.0	7.1	134	8.1	7.1	1	2.9	5.8
FEMALES	107	6.0	5.7	106	6.1	5.7	1	3.1	5.1
14. AGE									
00-04 YEARS	4	2.3	3.0	4	2.4	3.0	0	0.0	0.0
05-14 YEARS	1	0.3	0.2	1	0.3	0.2	0	0.0	0.0
15-24 YEARS	4	0.4	0.5	4	0.4	0.5	0	0.0	0.0
25-34 YEARS	1	0.2	0.4	1	0.2	0.4	0	0.0	0.0
35-44 YEARS	7	1.7	1.6	6	1.5	1.5	1	15.6	6.5
45-54 YEARS	5	1.6	3.6	5	1.6	3.5	0	0.0	10.9
55-64 YEARS	35	13.5	11.0	35	13.7	10.9	0	0.0	19.2
65 AND OVER	185	50.6	45.3	184	51.0	45.3	1	20.4	43.7
15. PLACE OF DEATH									
HOSPITAL	151	62.4	67.3	149	62.1	66.8	2	100.0	100.0
OTHER INSTITUTION	34	14.0	11.2	34	14.2	11.4	0	0.0	0.0
HOME OR NON-INSTITUTION	57	23.6	21.5	57	23.7	21.8	0	0.0	0.0
16. OCCURRENCE									
TOTAL	285	0.5	0.5	281	0.6	0.6	4	0.0	0.0
TO RESIDENTS	192	67.4	66.7	190	67.6	67.1	2	50.0	50.0
OTHER EVENTS									
17. MARRIAGES	335	9.7	9.8						
18. DIVORCES AND ANNULMENTS	131	3.8	3.6						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WAYNE COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	98625	1.5	1.6	65966	1.3	1.4	32659	2.1	2.1
MALES	47318	48.0	48.2	32469	49.2	49.4	14849	45.5	45.9
FEMALES	51307	52.0	51.8	33497	50.8	50.6	17810	54.5	54.1
2. NATURAL INCREASE	638	6.5	7.1	350	5.3	6.2	288	8.8	8.9
LIVE BIRTHS									
3. TOTAL	1603	16.3	16.1	954	14.5	14.7	649	19.9	19.1
MALES	817	8.3	8.1	496	7.5	7.5	321	9.8	9.5
FEMALES	786	8.0	8.0	458	6.9	7.2	328	10.0	9.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1545	96.4	99.0	906	95.0	98.9	639	98.5	99.3
PHYSICIAN NOT IN HOSPITAL	3	0.2	0.1	2	0.2	0.1	1	0.2	0.1
#CERTIFIED NURSE MIDWIFE	53	3.3	0.7	44	4.6	0.9	9	1.4	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	119	7.4	7.4	47	4.9	5.1	72	11.1	11.0
6. OUT OF WEDLOCK	446	27.8	25.0	84	8.8	7.3	362	55.8	52.1
7. OCCURRENCE									
TOTAL	1638	1.7	1.9	998	1.5	1.7	640	2.0	2.3
TO RESIDENTS	1472	89.9	86.4	875	87.7	84.0	597	93.3	90.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	23	14.3	16.8	12	12.5	15.1	11	16.8	19.5
9. FETAL DEATHS	10	6.2	9.7	6	6.2	9.1	4	6.1	10.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	9	90.0	98.7	5	83.3	97.7	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	40.0	35.9	1	16.7	18.2	3	75.0	58.8
10. NEONATAL (UNDER 28 DAYS)	13	8.1	7.2	6	6.3	6.1	7	10.8	8.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	2.5	3.6	0	0.0	1.9	4	6.2	6.1
12. INFANT DEATHS (UNDER 1 YEAR)	17	10.6	10.7	6	6.3	7.9	11	16.9	14.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	965	9.8	9.0	604	9.2	8.4	361	11.1	10.2
MALES	484	10.2	9.9	299	9.2	9.0	185	12.5	11.7
FEMALES	481	9.4	8.3	305	9.1	7.9	176	9.9	8.9
14. AGE									
00-04 YEARS	19	2.6	2.7	7	1.5	2.0	12	4.6	3.8
05-14 YEARS	5	0.3	0.4	3	0.3	0.3	2	0.3	0.5
15-24 YEARS	18	1.1	1.1	14	1.3	1.1	4	0.7	1.1
25-34 YEARS	30	1.7	1.6	18	1.6	1.2	12	2.0	2.2
35-44 YEARS	48	3.5	2.8	26	2.7	2.0	22	5.0	4.7
45-54 YEARS	62	6.2	6.4	27	3.7	5.0	35	13.0	10.2
55-64 YEARS	151	17.3	17.0	84	13.1	14.1	67	28.9	24.7
65 AND OVER	632	61.7	58.4	425	59.5	55.6	207	66.8	64.6
15. PLACE OF DEATH									
HOSPITAL	585	60.6	58.1	368	60.9	59.0	217	60.1	56.8
OTHER INSTITUTION	173	17.9	19.6	112	18.5	20.8	61	16.9	17.7
HOME OR NON-INSTITUTION	207	21.5	22.2	124	20.5	20.2	83	23.0	25.5
16. OCCURRENCE									
TOTAL	943	1.6	1.6	601	1.4	1.3	342	2.4	2.4
TO RESIDENTS	819	86.9	85.1	516	85.9	83.5	303	88.6	87.7
OTHER EVENTS									
17. MARRIAGES	907	9.2	8.9						
18. DIVORCES AND ANNULMENTS	481	4.9	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WILKES COUNTY

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
1. TOTAL	61426	0.9	1.0	58515	1.2	1.2	2911	0.2	0.2
MALES	29964	48.8	48.9	28568	48.8	48.9	1396	48.0	48.5
FEMALES	31462	51.2	51.1	29947	51.2	51.1	1515	52.0	51.5
2. NATURAL INCREASE	182	3.0	3.6	170	2.9	3.6	12	4.1	3.6
LIVE BIRTHS									
3. TOTAL	687	11.2	12.0	644	11.0	11.9	43	14.8	14.5
MALES	347	5.6	6.1	324	5.5	6.1	23	7.9	6.8
FEMALES	340	5.5	5.9	320	5.5	5.8	20	6.9	7.6
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	686	99.9	99.7	643	99.8	99.7	43	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.2	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	57	8.3	7.5	53	8.2	7.1	4	9.3	13.9
6. OUT OF WEDLOCK	114	16.6	14.3	95	14.8	12.0	19	44.2	51.9
7. OCCURRENCE									
TOTAL	580	0.6	0.7	539	0.8	0.9	41	0.1	0.1
TO RESIDENTS	545	94.0	95.2	506	93.9	95.0	39	95.1	97.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	12	17.4	13.6	12	18.5	13.3	0	0.0	18.4
9. FETAL DEATHS	4	5.8	6.8	4	6.2	6.9	0	0.0	4.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	92.0	4	100.0	91.7	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	0	0.0	12.0	0	0.0	8.3	0		100.0
10. NEONATAL (UNDER 28 DAYS)	8	11.6	6.8	8	12.4	6.4	0	0.0	13.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	5.9	4.7	3	4.7	4.1	1	23.3	14.1
12. INFANT DEATHS (UNDER 1 YEAR)	12	17.5	11.5	11	17.1	10.5	1	23.3	27.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	505	8.2	8.4	474	8.1	8.3	31	10.6	10.9
MALES	281	9.4	9.5	262	9.2	9.3	19	13.6	13.0
FEMALES	224	7.1	7.4	212	7.1	7.3	12	7.9	8.8
14. AGE									
00-04 YEARS	13	3.3	2.5	12	3.2	2.2	1	5.8	6.6
05-14 YEARS	1	0.1	0.2	1	0.1	0.2	0	0.0	0.0
15-24 YEARS	8	0.9	0.9	7	0.8	0.9	1	2.1	1.6
25-34 YEARS	10	1.0	0.9	10	1.0	1.0	0	0.0	0.4
35-44 YEARS	22	2.4	2.1	20	2.3	2.0	2	4.9	4.1
45-54 YEARS	35	5.1	5.9	32	4.8	5.6	3	10.7	12.2
55-64 YEARS	73	12.9	13.5	67	12.4	13.2	6	22.6	19.7
65 AND OVER	343	46.2	49.1	325	46.1	48.8	18	48.1	54.1
15. PLACE OF DEATH									
HOSPITAL	301	59.6	64.9	290	61.2	65.7	11	35.5	53.7
OTHER INSTITUTION	81	16.0	14.6	74	15.6	14.3	7	22.6	18.5
HOME OR NON-INSTITUTION	123	24.4	20.5	110	23.2	20.0	13	41.9	27.8
16. OCCURRENCE									
TOTAL	419	0.7	0.7	390	0.9	0.9	29	0.2	0.2
TO RESIDENTS	381	90.9	91.9	354	90.8	91.9	27	93.1	92.8
OTHER EVENTS									
17. MARRIAGES	548	8.9	8.9						
18. DIVORCES AND ANNULMENTS	256	4.2	4.2						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WILSON COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	65583	1.0	1.0	42103	0.9	0.9	23480	1.5	1.5
MALES	30536	46.6	46.8	19844	47.1	47.3	10692	45.5	46.0
FEMALES	35047	53.4	53.2	22259	52.9	52.7	12788	54.5	54.0
2. NATURAL INCREASE	230	3.5	4.2	49	1.2	1.4	181	7.7	9.2
LIVE BIRTHS									
3. TOTAL	929	14.2	14.1	465	11.0	11.1	464	19.8	19.5
MALES	453	6.9	7.1	228	5.4	5.7	225	9.6	9.7
FEMALES	476	7.3	7.0	237	5.6	5.4	239	10.2	9.8
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	927	99.8	99.7	463	99.6	99.6	464	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.1
#CERTIFIED NURSE MIDWIFE	1	0.1	0.1	1	0.2	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	78	8.4	9.0	36	7.7	6.5	42	9.1	11.4
6. OUT OF WEDLOCK	349	37.6	37.1	48	10.3	9.0	301	64.9	65.0
7. OCCURRENCE									
TOTAL	1139	1.2	1.2	632	1.0	1.0	507	1.6	1.7
TO RESIDENTS	859	75.4	75.5	417	66.0	67.1	442	87.2	85.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	9.6	14.3	4	8.5	14.8	5	10.7	13.8
9. FETAL DEATHS	7	7.5	8.9	3	6.4	9.1	4	8.5	8.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	85.7	92.7	3	100.0	90.5	3	75.0	95.0
PHYSICIAN NOT IN HOSPITAL	1	14.3	2.4	0	0.0	0.0	1	25.0	5.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	42.9	51.2	0	0.0	28.6	3	75.0	75.0
10. NEONATAL (UNDER 28 DAYS)	2	2.2	5.5	1	2.2	5.7	1	2.2	5.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	3.2	3.9	1	2.2	2.2	2	4.3	5.7
12. INFANT DEATHS (UNDER 1 YEAR)	5	5.4	9.4	2	4.3	7.9	3	6.5	10.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	699	10.7	9.9	416	9.9	9.6	283	12.1	10.4
MALES	341	11.2	11.2	198	10.0	10.6	143	13.4	12.4
FEMALES	358	10.2	8.7	218	9.8	8.8	140	10.9	8.7
14. AGE									
00-04 YEARS	7	1.6	2.4	2	0.8	1.6	5	2.6	3.3
05-14 YEARS	1	0.1	0.4	1	0.2	0.4	0	0.0	0.5
15-24 YEARS	14	1.3	1.2	4	0.6	0.8	10	2.3	1.7
25-34 YEARS	22	2.0	1.7	7	1.0	1.0	15	3.8	2.8
35-44 YEARS	31	3.3	3.1	11	1.7	2.2	20	6.4	5.0
45-54 YEARS	45	6.8	6.6	26	5.4	4.4	19	10.5	12.3
55-64 YEARS	101	16.6	17.8	65	15.0	15.4	36	20.5	23.5
65 AND OVER	478	60.3	55.2	300	54.4	53.8	178	73.5	58.4
15. PLACE OF DEATH									
HOSPITAL	445	63.7	65.0	267	64.2	64.7	178	62.9	65.6
OTHER INSTITUTION	131	18.7	17.7	87	20.9	19.2	44	15.5	15.3
HOME OR NON-INSTITUTION	123	17.6	17.3	62	14.9	16.1	61	21.6	19.1
16. OCCURRENCE									
TOTAL	816	1.4	1.4	516	1.2	1.2	300	2.1	1.9
TO RESIDENTS	614	75.2	72.9	370	71.7	69.0	244	81.3	80.3
OTHER EVENTS									
17. MARRIAGES	569	8.7	8.8						
18. DIVORCES AND ANNULMENTS	316	4.8	4.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

YADKIN COUNTY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	30322	0.5	0.5	28838	0.6	0.6	1484	0.1	0.1
MALES	14867	49.0	49.1	14113	48.9	49.0	754	50.8	51.2
FEMALES	15455	51.0	50.9	14725	51.1	51.0	730	49.2	48.8
2. NATURAL INCREASE	65	2.1	2.2	56	1.9	2.1	9	6.1	4.1
LIVE BIRTHS									
3. TOTAL	343	11.3	11.6	324	11.2	11.6	19	12.8	11.9
MALES	172	5.7	6.0	161	5.6	6.0	11	7.4	6.5
FEMALES	171	5.6	5.6	163	5.7	5.6	8	5.4	5.3
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	339	98.8	99.4	320	98.8	99.4	19	100.0	97.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	4	1.2	0.5	4	1.2	0.5	0	0.0	1.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	28	8.2	7.4	26	8.0	7.1	2	10.5	12.4
6. OUT OF WEDLOCK	41	12.0	11.4	31	9.6	8.9	10	52.6	56.2
7. OCCURRENCE									
TOTAL	111	0.1	0.1	103	0.2	0.1	8	0.0	0.0
TO RESIDENTS	99	89.2	92.1	92	89.3	91.9	7	87.5	93.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	5.8	9.8	2	6.2	10.3	0	0.0	0.0
9. FETAL DEATHS	0	0.0	5.2	0	0.0	5.5	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		
PERMITTED MIDWIFE	0		0.0	0		0.0	0		
OUT OF WEDLOCK	0		22.2	0		22.2	0		
10. NEONATAL (UNDER 28 DAYS)	2	5.8	4.6	2	6.2	4.9	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	5.9	4.7	1	3.1	3.7	1	52.6	22.5
12. INFANT DEATHS (UNDER 1 YEAR)	4	11.7	9.3	3	9.3	8.6	1	52.6	22.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	278	9.2	9.4	268	9.3	9.5	10	6.7	7.7
MALES	160	10.8	10.8	153	10.8	11.0	7	9.3	8.3
FEMALES	118	7.6	8.0	115	7.8	8.1	3	4.1	7.1
14. AGE									
00-04 YEARS	7	4.0	2.7	6	3.6	2.5	1	11.0	6.4
05-14 YEARS	1	0.3	0.2	1	0.3	0.2	0	0.0	0.0
15-24 YEARS	5	1.1	1.0	5	1.2	1.0	0	0.0	0.7
25-34 YEARS	5	1.0	1.2	5	1.1	1.2	0	0.0	0.8
35-44 YEARS	4	0.9	1.9	4	0.9	1.8	0	0.0	2.9
45-54 YEARS	16	4.5	4.3	15	4.3	3.9	1	8.0	13.9
55-64 YEARS	33	10.4	11.1	32	10.5	11.2	1	8.5	8.4
65 AND OVER	207	48.1	50.5	200	48.5	50.9	7	38.7	41.5
15. PLACE OF DEATH									
HOSPITAL	166	59.7	64.6	159	59.3	64.5	7	70.0	67.2
OTHER INSTITUTION	70	25.2	18.8	69	25.7	19.1	1	10.0	12.1
HOME OR NON-INSTITUTION	42	15.1	16.6	40	14.9	16.4	2	20.0	20.7
16. OCCURRENCE									
TOTAL	179	0.3	0.3	174	0.4	0.4	5	0.0	0.1
TO RESIDENTS	144	80.4	86.7	140	80.5	86.7	4	80.0	86.1
OTHER EVENTS									
17. MARRIAGES	290	9.6	9.1						
18. DIVORCES AND ANNULMENTS	110	3.6	3.4						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

YANCEY COUNTY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
1. TOTAL	16011	0.2	0.2	15762	0.3	0.3	249	0.0	0.0
MALES	7754	48.4	48.6	7599	48.2	48.3	155	62.2	63.0
FEMALES	8257	51.6	51.4	8163	51.8	51.7	94	37.8	37.0
2. NATURAL INCREASE	76	4.7	2.5	74	4.7	2.5	2	8.0	3.2
LIVE BIRTHS									
3. TOTAL	201	12.6	11.2	199	12.6	11.2	2	8.0	11.2
MALES	90	5.6	5.7	90	5.7	5.7	0	0.0	4.8
FEMALES	111	6.9	5.5	109	6.9	5.5	2	8.0	6.4
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	188	93.5	92.5	186	93.5	92.5	2	100.0	92.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.2	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	8	4.0	5.2	8	4.0	5.2	0	0.0	7.1
PERMITTED MIDWIFE	5	2.5	1.8	5	2.5	1.8	0	0.0	0.0
5. PREMATURE BIRTHS	12	6.0	6.3	12	6.0	6.1	0	0.0	21.4
6. OUT OF WEDLOCK	23	11.4	10.3	22	11.1	10.0	1	50.0	28.6
7. OCCURRENCE									
TOTAL	7	0.0	0.0	7	0.0	0.0	0	0.0	0.0
TO RESIDENTS	7	100.0	96.8	7	100.0	96.8	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	2	9.9	16.8	1	5.0	16.0	1	333.3	66.7
9. FETAL DEATHS	1	5.0	11.2	0	0.0	10.3	1	333.3	66.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	0		100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	100.0	40.0	0		33.3	1	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	1	5.0	5.7	1	5.0	5.8	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	5.0	2.3	1	5.1	2.3	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	2	10.0	7.9	2	10.1	8.1	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	125	7.8	8.7	125	7.9	8.7	0	0.0	8.0
MALES	66	8.5	9.8	66	8.7	9.9	0	0.0	6.3
FEMALES	59	7.1	7.7	59	7.2	7.7	0	0.0	10.8
14. AGE									
00-04 YEARS	2	2.0	1.6	2	2.0	1.6	0	0.0	0.0
05-14 YEARS	0	0.0	0.3	0	0.0	0.3	0	0.0	0.0
15-24 YEARS	1	0.4	1.0	1	0.4	1.1	0	0.0	0.0
25-34 YEARS	1	0.4	0.7	1	0.4	0.8	0	0.0	0.0
35-44 YEARS	1	0.4	2.4	1	0.4	2.2	0	0.0	12.3
45-54 YEARS	7	4.1	4.3	7	4.2	4.4	0	0.0	0.0
55-64 YEARS	17	10.7	11.3	17	10.9	11.1	0	0.0	25.9
65 AND OVER	96	38.6	42.1	96	38.9	42.0	0	0.0	51.0
15. PLACE OF DEATH									
HOSPITAL	70	56.0	60.3	70	56.0	60.2	0		70.0
OTHER INSTITUTION	31	24.8	17.7	31	24.8	17.8	0		10.0
HOME OR NON-INSTITUTION	24	19.2	21.9	24	19.2	22.0	0		20.0
16. OCCURRENCE									
TOTAL	45	0.1	0.1	45	0.1	0.1	0	0.0	0.0
TO RESIDENTS	42	93.3	92.7	42	93.3	92.6	0		100.0
OTHER EVENTS									
17. MARRIAGES	138	8.6	10.8						
18. DIVORCES AND ANNULMENTS	77	4.8	3.8						

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

CITY TABLES

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ALBEMARLE

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	37			10			27		
LIVE BIRTHS									
3. TOTAL	199			144			55		
MALES	103			80			23		
FEMALES	96			64			32		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	198	99.5	99.4	143	99.3	99.2	55	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.4	0	0.0	0.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	18	9.0	8.3	12	8.3	6.7	6	10.9	12.1
6. OUT OF WEDLOCK	48	24.1	22.8	13	9.0	8.4	35	63.6	57.6
7. OCCURRENCE									
TOTAL	479	0.5	0.5	375	0.6	0.5	104	0.3	0.4
TO RESIDENTS	156	32.6	31.2	106	28.3	27.2	50	48.1	44.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	14.9	13.1	3	20.5	12.4	0	0.0	14.9
9. FETAL DEATHS	2	10.0	8.8	2	13.7	6.2	0	0.0	14.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	100.0	2	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	1	50.0	50.0	1	50.0	50.0	0		50.0
10. NEONATAL (UNDER 28 DAYS)	1	5.0	4.4	1	6.9	6.2	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.3	0	0.0	3.1	0	0.0	3.8
12. INFANT DEATHS (UNDER 1 YEAR)	1	5.0	7.7	1	6.9	9.4	0	0.0	3.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	162			134			28		
MALES	80			68			12		
FEMALES	82			66			16		
14. AGE									
00-04 YEARS	1			1			0		
05-14 YEARS	0			0			0		
15-24 YEARS	2			2			0		
25-34 YEARS	5			4			1		
35-44 YEARS	2			1			1		
45-54 YEARS	11			7			4		
55-64 YEARS	21			18			3		
65 AND OVER	120			101			19		
15. PLACE OF DEATH									
HOSPITAL	111	68.5	68.5	89	66.4	68.1	22	78.6	71.1
OTHER INSTITUTION	24	14.8	15.5	22	16.4	16.5	2	7.1	9.9
HOME OR NON-INSTITUTION	27	16.7	16.0	23	17.2	15.5	4	14.3	19.0
16. OCCURRENCE									
TOTAL	296	0.5	0.5	255	0.6	0.6	41	0.3	0.3
TO RESIDENTS	119	40.2	42.5	96	37.6	41.5	23	56.1	48.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1988

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ASHEBORO

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)									
2. NATURAL INCREASE	48			11			37		
LIVE BIRTHS									
3. TOTAL	246			187			59		
MALES	135			107			28		
FEMALES	111			80			31		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	241	98.0	97.5	182	97.3	97.5	59	100.0	97.6
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	3	1.2	1.2	3	1.6	1.4	0	0.0	0.3
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	22	8.9	8.6	13	7.0	7.4	9	15.3	12.4
6. OUT OF WEDLOCK	80	32.5	26.9	49	26.2	16.3	31	52.5	59.8
7. OCCURRENCE									
TOTAL	352	0.4	0.5	311	0.5	0.6	41	0.1	0.2
TO RESIDENTS	108	30.7	29.3	83	26.7	24.6	25	61.0	54.8
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	12.1	15.7	2	10.6	14.2	1	16.9	20.5
9. FETAL DEATHS	2	8.1	9.1	2	10.6	9.8	0	0.0	6.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	90.9	2	100.0	88.9	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	1	50.0	36.4	1	50.0	33.3	0		50.0
10. NEONATAL (UNDER 28 DAYS)	1	4.1	6.7	0	0.0	4.4	1	16.9	13.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	8.2	3.4	1	5.3	3.3	1	17.2	3.5
12. INFANT DEATHS (UNDER 1 YEAR)	3	12.2	10.0	1	5.3	7.7	2	33.9	17.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	198			176			22		
MALES	96			87			9		
FEMALES	102			89			13		
14. AGE									
00-04 YEARS	3			1			2		
05-14 YEARS	0			0			0		
15-24 YEARS	4			4			0		
25-34 YEARS	0			0			0		
35-44 YEARS	8			6			2		
45-54 YEARS	5			4			1		
55-64 YEARS	24			21			3		
65 AND OVER	154			140			14		
15. PLACE OF DEATH									
HOSPITAL	100	50.5	59.2	88	50.0	58.1	12	54.5	67.6
OTHER INSTITUTION	64	32.3	24.5	58	33.0	25.8	6	27.3	13.3
HOME OR NON-INSTITUTION	34	17.2	16.4	30	17.0	16.0	4	18.2	19.0
16. OCCURRENCE									
TOTAL	350	0.6	0.6	317	0.7	0.7	33	0.2	0.2
TO RESIDENTS	142	40.6	42.1	128	40.4	41.2	14	42.4	50.7

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ASHEVILLE

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	84-88	NUMBER 1988	RATE* 1988	84-88	NUMBER 1988	RATE* 1988	84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	-16			-118			102		
LIVE BIRTHS									
3. TOTAL	885			616			269		
MALES	492			341			151		
FEMALES	393			275			118		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	852	96.3	96.1	590	95.8	95.2	262	97.4	98.4
PHYSICIAN NOT IN HOSPITAL	4	0.5	0.6	2	0.3	0.6	2	0.7	0.3
#CERTIFIED NURSE MIDWIFE	24	2.7	2.8	20	3.2	3.4	4	1.5	1.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	61	6.9	7.5	33	5.4	5.9	28	10.4	11.3
6. OUT OF WEDLOCK	320	36.2	32.3	137	22.2	18.0	183	68.0	66.6
7. OCCURRENCE									
TOTAL	3119	3.2	3.1	2786	4.2	4.1	333	1.1	1.1
TO RESIDENTS	859	27.5	26.6	598	21.5	20.8	261	78.4	75.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	21	23.5	20.5	7	11.3	16.0	14	50.9	31.2
9. FETAL DEATHS	10	11.2	11.7	4	6.5	9.9	6	21.8	16.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	95.7	4	100.0	96.4	6	100.0	94.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	4.3	0	0.0	3.6	0	0.0	5.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	8	80.0	51.1	3	75.0	42.9	5	83.3	63.2
10. NEONATAL (UNDER 28 DAYS)	11	12.4	8.9	3	4.9	6.1	8	29.7	15.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	3.4	2.6	3	4.9	2.9	0	0.0	1.7
12. INFANT DEATHS (UNDER 1 YEAR)	14	15.8	11.4	6	9.7	9.0	8	29.7	17.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	901			734			167		
MALES	422			334			88		
FEMALES	479			400			79		
14. AGE									
00-04 YEARS	16			7			9		
05-14 YEARS	3			2			1		
15-24 YEARS	5			4			1		
25-34 YEARS	19			12			7		
35-44 YEARS	28			18			10		
45-54 YEARS	38			28			10		
55-64 YEARS	114			90			24		
65 AND OVER	678			573			105		
15. PLACE OF DEATH									
HOSPITAL	460	51.1	51.3	359	48.9	50.0	101	60.5	57.0
OTHER INSTITUTION	233	25.9	27.1	206	28.1	28.6	27	16.2	20.6
HOME OR NON-INSTITUTION	208	23.1	21.6	169	23.0	21.4	39	23.4	22.4
16. OCCURRENCE									
TOTAL	1676	2.9	2.9	1495	3.4	3.5	181	1.3	1.3
TO RESIDENTS	750	44.7	44.4	607	40.6	40.2	143	79.0	80.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BOONE

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	-24			-28			4		
LIVE BIRTHS									
3. TOTAL	35			30			5		
MALES	14			12			2		
FEMALES	21			18			3		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	35	100.0	97.7	30	100.0	97.5	5	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.3	0	0.0	0.4	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	2.0	0	0.0	2.1	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	2	5.7	3.3	1	3.3	2.8	1	20.0	10.0
6. OUT OF WEDLOCK	3	8.6	14.5	3	10.0	13.8	0	0.0	25.0
7. OCCURRENCE									
TOTAL	778	0.8	0.8	768	1.2	1.1	10	0.0	0.0
TO RESIDENTS	32	4.1	8.2	28	3.6	7.8	4	40.0	46.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	1	27.8	6.6	1	32.3	7.0	0	0.0	0.0
9. FETAL DEATHS	1	27.8	6.6	1	32.3	7.0	0	0.0	0.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	100.0	100.0	1	100.0	100.0	0		
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		
OUT OF WEDLOCK	0	0.0	0.0	0	0.0	0.0	0		
10. NEONATAL (UNDER 28 DAYS)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	59			58			1		
MALES	25			24			1		
FEMALES	34			34			0		
14. AGE									
00-04 YEARS	0			0			0		
05-14 YEARS	0			0			0		
15-24 YEARS	0			0			0		
25-34 YEARS	0			0			0		
35-44 YEARS	2			1			1		
45-54 YEARS	1			1			0		
55-64 YEARS	11			11			0		
65 AND OVER	45			45			0		
15. PLACE OF DEATH									
HOSPITAL	38	64.4	66.7	37	63.8	65.1	1	100.0	100.0
OTHER INSTITUTION	10	16.9	17.1	10	17.2	17.9	0	0.0	0.0
HOME OR NON-INSTITUTION	11	18.6	16.3	11	19.0	17.0	0	0.0	0.0
16. OCCURRENCE									
TOTAL	200	0.3	0.3	197	0.4	0.4	3	0.0	0.0
TO RESIDENTS	45	22.5	22.5	44	22.3	22.0	1	33.3	40.9

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

BURLINGTON

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	173			8			165		
LIVE BIRTHS									
3. TOTAL	619			363			256		
MALES	293			167			126		
FEMALES	326			196			130		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	615	99.4	99.5	360	99.2	99.4	255	99.6	99.7
PHYSICIAN NOT IN HOSPITAL	1	0.2	0.1	0	0.0	0.1	1	0.4	0.2
#CERTIFIED NURSE MIDWIFE	3	0.5	0.4	3	0.8	0.5	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	57	9.2	8.7	16	4.4	5.9	41	16.0	13.5
6. OUT OF WEDLOCK	211	34.1	29.3	44	12.1	11.0	167	65.2	60.9
7. OCCURRENCE									
TOTAL	1151	1.2	1.2	846	1.3	1.3	305	1.0	0.9
TO RESIDENTS	455	39.5	38.5	281	33.2	33.3	174	57.0	55.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	16.0	17.1	2	5.5	12.4	8	30.7	25.2
9. FETAL DEATHS	7	11.2	10.0	2	5.5	6.2	5	19.2	16.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	7	100.0	96.4	2	100.0	100.0	5	100.0	94.1
PHYSICIAN NOT IN HOSPITAL	0	0.0	3.6	0	0.0	0.0	0	0.0	5.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	5	71.4	64.3	0	0.0	27.3	5	100.0	88.2
10. NEONATAL (UNDER 28 DAYS)	3	4.8	7.2	0	0.0	6.3	3	11.7	8.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	6.5	5.4	2	5.5	6.9	2	7.9	3.0
12. INFANT DEATHS (UNDER 1 YEAR)	7	11.3	12.6	2	5.5	13.1	5	19.5	11.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	446			355			91		
MALES	245			196			49		
FEMALES	201			159			42		
14. AGE									
00-04 YEARS	11			4			7		
05-14 YEARS	3			1			2		
15-24 YEARS	3			2			1		
25-34 YEARS	9			5			4		
35-44 YEARS	12			9			3		
45-54 YEARS	21			10			11		
55-64 YEARS	69			57			12		
65 AND OVER	318			267			51		
15. PLACE OF DEATH									
HOSPITAL	266	59.6	60.8	209	58.9	60.4	57	62.6	62.9
OTHER INSTITUTION	58	13.0	12.8	51	14.4	13.1	7	7.7	11.8
HOME OR NON-INSTITUTION	122	27.4	26.3	95	26.8	26.6	27	29.7	25.3
16. OCCURRENCE									
TOTAL	638	1.1	1.1	515	1.2	1.2	123	0.9	0.8
TO RESIDENTS	325	50.9	51.0	259	50.3	51.1	66	53.7	50.4

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CARY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	477			421			56		
LIVE BIRTHS									
3. TOTAL	586			525			61		
MALES	286			260			26		
FEMALES	300			265			35		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	562	95.9	95.9	501	95.4	95.5	61	100.0	98.8
PHYSICIAN NOT IN HOSPITAL	1	0.2	0.0	1	0.2	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	23	3.9	4.0	23	4.4	4.4	0	0.0	1.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	30	5.1	4.7	21	4.0	4.5	9	14.8	6.4
6. OUT OF WEDLOCK	35	6.0	5.2	20	3.8	3.9	15	24.6	16.7
7. OCCURRENCE									
TOTAL	1	0.0	0.0	1	0.0	0.0	0	0.0	0.0
TO RESIDENTS	1	100.0	100.0	1	100.0	100.0	0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	8	13.5	16.1	7	13.2	14.9	1	16.1	27.6
9. FETAL DEATHS	6	10.1	8.3	5	9.4	7.9	1	16.1	11.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	100.0	5	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	16.7	23.8	1	20.0	22.2	0	0.0	33.3
10. NEONATAL (UNDER 28 DAYS)	2	3.4	7.9	2	3.8	7.1	0	0.0	15.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	2.4	0	0.0	2.2	0	0.0	4.0
12. INFANT DEATHS (UNDER 1 YEAR)	2	3.4	10.3	2	3.8	9.3	0	0.0	19.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	109			104			5		
MALES	56			53			3		
FEMALES	53			51			2		
14. AGE									
00-04 YEARS	3			2			1		
05-14 YEARS	0			0			0		
15-24 YEARS	1			1			0		
25-34 YEARS	4			4			0		
35-44 YEARS	6			6			0		
45-54 YEARS	11			10			1		
55-64 YEARS	12			11			1		
65 AND OVER	72			70			2		
15. PLACE OF DEATH									
HOSPITAL	79	72.5	70.0	75	72.1	69.8	4	80.0	73.0
OTHER INSTITUTION	15	13.8	14.8	14	13.5	15.1	1	20.0	10.8
HOME OR NON-INSTITUTION	15	13.8	15.2	15	14.4	15.1	0	0.0	16.2
16. OCCURRENCE									
TOTAL	22	0.0	0.0	21	0.0	0.0	1	0.0	0.0
TO RESIDENTS	17	77.3	87.1	16	76.2	86.0	1	100.0	100.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CHAPEL HILL

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	199			123			76		
LIVE BIRTHS									
3. TOTAL	381			265			116		
MALES	205			143			62		
FEMALES	176			122			54		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	348	91.3	92.4	234	88.3	89.7	114	98.3	98.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	30	7.9	6.8	28	10.6	9.3	2	1.7	0.7
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	29	7.6	6.2	19	7.2	4.4	10	8.6	10.6
6. OUT OF WEDLOCK	79	20.7	17.3	18	6.8	4.8	61	52.6	48.6
7. OCCURRENCE									
TOTAL	2132	2.2	2.0	1184	1.8	1.6	948	3.0	2.8
TO RESIDENTS	204	9.6	9.4	115	9.7	9.4	89	9.4	9.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	18.1	17.5	2	7.5	9.7	5	41.3	36.6
9. FETAL DEATHS	6	15.5	11.9	1	3.8	7.0	5	41.3	23.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	100.0	1	100.0	100.0	5	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	66.7	36.8	1	100.0	25.0	3	60.0	45.5
10. NEONATAL (UNDER 28 DAYS)	1	2.6	5.7	1	3.8	2.7	0	0.0	13.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	5.1	0	0.0	4.4	0	0.0	6.7
12. INFANT DEATHS (UNDER 1 YEAR)	1	2.6	10.7	1	3.8	7.1	0	0.0	19.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	182			142			40		
MALES	78			59			19		
FEMALES	104			83			21		
14. AGE									
00-04 YEARS	3			1			2		
05-14 YEARS	0			0			0		
15-24 YEARS	0			0			0		
25-34 YEARS	4			4			0		
35-44 YEARS	5			5			0		
45-54 YEARS	7			3			4		
55-64 YEARS	27			19			8		
65 AND OVER	136			110			26		
15. PLACE OF DEATH									
HOSPITAL	89	48.9	49.9	63	44.4	45.9	26	65.0	66.3
OTHER INSTITUTION	45	24.7	27.4	39	27.5	31.0	6	15.0	13.0
HOME OR NON-INSTITUTION	48	26.4	22.7	40	28.2	23.2	8	20.0	20.7
16. OCCURRENCE									
TOTAL	928	1.6	1.6	566	1.3	1.3	362	2.6	2.4
TO RESIDENTS	155	16.7	17.1	117	20.7	21.7	38	10.5	9.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CHARLOTTE

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	3641			1681			1960		
LIVE BIRTHS									
3. TOTAL	6630			3703			2927		
MALES	3375			1890			1485		
FEMALES	3255			1813			1442		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	6574	99.2	99.3	3663	98.9	98.9	2911	99.5	99.7
PHYSICIAN NOT IN HOSPITAL	14	0.2	0.1	4	0.1	0.1	10	0.3	0.2
#CERTIFIED NURSE MIDWIFE	35	0.5	0.4	31	0.8	0.7	4	0.1	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	664	10.0	8.9	223	6.0	5.8	441	15.1	12.7
6. OUT OF WEDLOCK	2203	33.2	31.8	430	11.6	10.0	1773	60.6	59.0
7. OCCURRENCE									
TOTAL	10468	10.7	10.3	7115	10.7	10.3	3353	10.6	10.2
TO RESIDENTS	6369	60.8	59.0	3499	49.2	47.2	2870	85.6	84.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	125	18.7	18.6	49	13.1	13.6	76	25.6	24.8
9. FETAL DEATHS	62	9.3	9.8	24	6.4	7.9	38	12.8	12.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	60	96.8	96.8	24	100.0	99.2	36	94.7	94.9
PHYSICIAN NOT IN HOSPITAL	2	3.2	2.5	0	0.0	0.0	2	5.3	4.5
#CERTIFIED NURSE MIDWIFE	0	0.0	0.4	0	0.0	0.8	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	31	50.0	40.8	4	16.7	16.7	27	71.1	60.3
10. NEONATAL (UNDER 28 DAYS)	63	9.5	8.9	25	6.8	5.7	38	13.0	12.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	32	4.9	4.1	7	1.9	2.9	25	8.7	5.6
12. INFANT DEATHS (UNDER 1 YEAR)	95	14.3	12.9	32	8.6	8.6	63	21.5	18.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	2989			2022			967		
MALES	1492			980			512		
FEMALES	1497			1042			455		
14. AGE									
00-04 YEARS	105			36			69		
05-14 YEARS	9			4			5		
15-24 YEARS	54			30			24		
25-34 YEARS	111			55			56		
35-44 YEARS	152			70			82		
45-54 YEARS	216			120			96		
55-64 YEARS	452			288			164		
65 AND OVER	1890			1419			471		
15. PLACE OF DEATH									
HOSPITAL	1690	56.5	57.1	1076	53.2	54.6	614	63.5	62.3
OTHER INSTITUTION	564	18.9	18.3	442	21.9	21.7	122	12.6	11.4
HOME OR NON-INSTITUTION	735	24.6	24.6	504	24.9	23.7	231	23.9	26.3
16. OCCURRENCE									
TOTAL	4182	7.2	7.1	3082	7.0	6.9	1100	7.8	7.7
TO RESIDENTS	2715	64.9	64.4	1834	59.5	59.2	881	80.1	78.9

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

CONCORD

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	58			-10			68		
LIVE BIRTHS									
3. TOTAL	434			300			134		
MALES	220			156			64		
FEMALES	214			144			70		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	432	99.5	99.8	299	99.7	99.8	133	99.3	99.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.0	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	2	0.5	0.2	1	0.3	0.2	1	0.7	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	42	9.7	10.4	21	7.0	7.5	21	15.7	15.9
6. OUT OF WEDLOCK	134	30.9	33.7	37	12.3	13.3	97	72.4	72.5
7. OCCURRENCE									
TOTAL	1277	1.3	1.4	1006	1.5	1.6	271	0.9	0.9
TO RESIDENTS	305	23.9	19.7	195	19.4	14.8	110	40.6	39.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	5	11.4	14.9	5	16.5	13.7	0	0.0	17.3
9. FETAL DEATHS	3	6.9	7.8	3	9.9	8.2	0	0.0	6.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	3	100.0	100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0		0.0
OUT OF WEDLOCK	0	0.0	23.1	0	0.0	0.0	0		75.0
10. NEONATAL (UNDER 28 DAYS)	2	4.6	7.2	2	6.7	5.5	0	0.0	10.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	4.6	4.2	1	3.4	2.8	1	7.5	7.0
12. INFANT DEATHS (UNDER 1 YEAR)	4	9.2	11.4	3	10.0	8.3	1	7.5	17.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	376			310			66		
MALES	189			154			35		
FEMALES	187			156			31		
14. AGE									
00-04 YEARS	4			3			1		
05-14 YEARS	1			0			1		
15-24 YEARS	4			3			1		
25-34 YEARS	7			5			2		
35-44 YEARS	9			6			3		
45-54 YEARS	11			8			3		
55-64 YEARS	45			35			10		
65 AND OVER	295			250			45		
15. PLACE OF DEATH									
HOSPITAL	262	69.7	70.2	215	69.4	68.6	47	71.2	76.3
OTHER INSTITUTION	64	17.0	14.2	57	18.4	15.5	7	10.6	9.4
HOME OR NON-INSTITUTION	50	13.3	15.6	38	12.3	15.9	12	18.2	14.3
16. OCCURRENCE									
TOTAL	717	1.2	1.3	612	1.4	1.4	105	0.7	0.8
TO RESIDENTS	305	42.5	34.2	246	40.2	31.4	59	56.2	49.9

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

DURHAM

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
			POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)						
2. NATURAL INCREASE	913			283			630		
LIVE BIRTHS									
3. TOTAL	2141			949			1192		
MALES	1099			496			603		
FEMALES	1042			453			589		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2028	94.7	95.4	845	89.0	90.9	1183	99.2	98.9
PHYSICIAN NOT IN HOSPITAL	1	0.0	0.1	0	0.0	0.1	1	0.1	0.2
#CERTIFIED NURSE MIDWIFE	108	5.0	4.3	100	10.5	8.7	8	0.7	0.9
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	187	8.7	9.9	40	4.2	5.4	147	12.3	13.5
6. OUT OF WEDLOCK	776	36.2	35.5	77	8.1	8.5	699	58.6	56.3
7. OCCURRENCE									
TOTAL	4547	4.6	4.6	2549	3.9	3.8	1998	6.3	6.2
TO RESIDENTS	2034	44.7	42.5	881	34.6	31.8	1153	57.7	56.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	38	17.6	20.0	11	11.5	14.2	27	22.4	24.5
9. FETAL DEATHS	19	8.8	10.2	6	6.3	6.8	13	10.8	12.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	19	100.0	97.9	6	100.0	100.0	13	100.0	97.1
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	9	47.4	44.8	2	33.3	14.3	7	53.8	57.4
10. NEONATAL (UNDER 28 DAYS)	19	8.9	10.0	5	5.3	7.4	14	11.7	11.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	6	2.8	4.1	1	1.1	2.0	5	4.2	5.8
12. INFANT DEATHS (UNDER 1 YEAR)	25	11.7	14.0	6	6.3	9.3	19	15.9	17.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1228			666			562		
MALES	572			290			282		
FEMALES	656			376			280		
14. AGE									
00-04 YEARS	31			9			22		
05-14 YEARS	4			2			2		
15-24 YEARS	15			6			9		
25-34 YEARS	25			8			17		
35-44 YEARS	54			15			39		
45-54 YEARS	75			27			48		
55-64 YEARS	166			76			90		
65 AND OVER	858			523			335		
15. PLACE OF DEATH									
HOSPITAL	721	58.7	57.6	366	55.0	53.5	355	63.2	62.9
OTHER INSTITUTION	242	19.7	21.7	164	24.6	26.2	78	13.9	15.9
HOME OR NON-INSTITUTION	265	21.6	20.7	136	20.4	20.3	129	23.0	21.2
16. OCCURRENCE									
TOTAL	2654	4.6	4.8	1694	3.9	4.3	960	6.8	6.7
TO RESIDENTS	1132	42.7	40.4	607	35.8	34.5	525	54.7	52.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

EDEN

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	41			-6			47		
LIVE BIRTHS									
3. TOTAL	225			157			68		
MALES	105			69			36		
FEMALES	120			88			32		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	223	99.1	99.2	157	100.0	99.3	66	97.1	98.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.1	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	26	11.6	8.6	16	10.2	6.5	10	14.7	14.1
6. OUT OF WEDLOCK	60	26.7	26.9	18	11.5	12.9	42	61.8	63.4
7. OCCURRENCE									
TOTAL	562	0.6	0.5	417	0.6	0.5	145	0.5	0.4
TO RESIDENTS	174	31.0	31.5	122	29.3	30.9	52	35.9	33.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	13.2	17.4	1	6.3	13.4	2	28.6	28.0
9. FETAL DEATHS	3	13.2	8.7	1	6.3	9.4	2	28.6	7.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	88.9	1	100.0	85.7	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	66.7	44.5	0	0.0	28.6	2	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	8.8	0	0.0	4.1	0	0.0	21.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	8.9	4.9	2	12.7	2.7	0	0.0	10.8
12. INFANT DEATHS (UNDER 1 YEAR)	2	8.9	13.7	2	12.7	6.8	0	0.0	31.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	184			163			21		
MALES	88			82			6		
FEMALES	96			81			15		
14. AGE									
00-04 YEARS	2			2			0		
05-14 YEARS	0			0			0		
15-24 YEARS	2			2			0		
25-34 YEARS	4			2			2		
35-44 YEARS	2			2			0		
45-54 YEARS	8			5			3		
55-64 YEARS	28			24			4		
65 AND OVER	138			126			12		
15. PLACE OF DEATH									
HOSPITAL	108	58.7	65.3	94	57.7	64.4	14	66.7	72.2
OTHER INSTITUTION	28	15.2	15.1	24	14.7	16.0	4	19.0	8.3
HOME OR NON-INSTITUTION	48	26.1	19.6	45	27.6	19.6	3	14.3	19.4
16. OCCURRENCE									
TOTAL	226	0.4	0.4	193	0.4	0.5	33	0.2	0.2
TO RESIDENTS	132	58.4	57.0	119	61.7	59.5	13	39.4	42.8

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ELIZABETH CITY

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	60			-21			81		
LIVE BIRTHS									
3. TOTAL	280			127			153		
MALES	155			70			85		
FEMALES	125			57			68		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	270	96.4	93.0	118	92.9	86.1	152	99.3	98.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	10	3.6	7.0	9	7.1	13.9	1	0.7	1.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	26	9.3	11.0	8	6.3	9.5	18	11.8	12.4
6. OUT OF WEDLOCK	117	41.8	36.2	17	13.4	10.5	100	65.4	57.6
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0			0			0		
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	31.3	22.8	5	38.2	20.8	4	25.5	24.5
9. FETAL DEATHS	8	27.8	16.5	4	30.5	13.8	4	25.5	18.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	8	100.0	90.5	4	100.0	87.5	4	100.0	92.3
PHYSICIAN NOT IN HOSPITAL	0	0.0	4.8	0	0.0	0.0	0	0.0	7.7
#CERTIFIED NURSE MIDWIFE	0	0.0	4.8	0	0.0	12.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	37.5	33.3	1	25.0	12.5	2	50.0	46.2
10. NEONATAL (UNDER 28 DAYS)	1	3.6	6.4	1	7.9	7.0	0	0.0	5.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	3.6	4.0	0	0.0	0.0	1	6.5	7.4
12. INFANT DEATHS (UNDER 1 YEAR)	2	7.1	10.4	1	7.9	7.0	1	6.5	13.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	220			148			72		
MALES	105			66			39		
FEMALES	115			82			33		
14. AGE									
00-04 YEARS	2			1			1		
05-14 YEARS	1			1			0		
15-24 YEARS	1			0			1		
25-34 YEARS	5			2			3		
35-44 YEARS	7			4			3		
45-54 YEARS	12			6			6		
55-64 YEARS	17			6			11		
65 AND OVER	175			128			47		
15. PLACE OF DEATH									
HOSPITAL	129	58.6	62.3	88	59.5	61.1	41	56.9	64.5
OTHER INSTITUTION	51	23.2	2..2	30	20.3	22.2	21	29.2	19.3
HOME OR NON-INSTITUTION	40	18.2	16.5	30	20.3	16.6	10	13.9	16.3
16. OCCURRENCE									
TOTAL	88	0.2	0.1	65	0.1	0.1	23	0.2	0.2
TO RESIDENTS	69	78.4	68.8	52	80.0	66.4	17	73.9	74.6

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

FAYETTEVILLE

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	1418			684			734		
LIVE BIRTHS									
3. TOTAL	2161			1122			1039		
MALES	1092			569			523		
FEMALES	1069			553			516		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2153	99.6	99.5	1119	99.7	99.4	1034	99.5	99.6
PHYSICIAN NOT IN HOSPITAL	2	0.1	0.1	0	0.0	0.1	2	0.2	0.1
#CERTIFIED NURSE MIDWIFE	1	0.0	0.1	1	0.1	0.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	194	9.0	8.6	56	5.0	5.6	138	13.3	12.1
6. OUT OF WEDLOCK	570	26.4	23.8	107	9.5	7.4	463	44.6	42.9
7. OCCURRENCE									
TOTAL	4427	4.5	4.4	2551	3.9	3.9	1876	5.9	5.6
TO RESIDENTS	1437	32.5	30.9	695	27.2	26.4	742	39.6	37.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	45	20.6	18.6	16	14.1	15.5	29	27.5	22.3
9. FETAL DEATHS	23	10.5	9.3	9	8.0	7.1	14	13.3	11.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	22	95.7	96.6	9	100.0	100.0	13	92.9	94.2
PHYSICIAN NOT IN HOSPITAL	1	4.3	1.1	0	0.0	0.0	1	7.1	1.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	7	30.4	31.8	0	0.0	13.9	7	50.0	44.2
10. NEONATAL (UNDER 28 DAYS)	22	10.2	9.4	7	6.2	8.5	15	14.4	10.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	7	3.3	4.9	3	2.7	3.4	4	3.9	6.6
12. INFANT DEATHS (UNDER 1 YEAR)	29	13.4	14.2	10	8.9	11.9	19	18.3	17.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	743			438			305		
MALES	387			222			165		
FEMALES	356			216			140		
14. AGE									
00-04 YEARS	32			11			21		
05-14 YEARS	1			1			0		
15-24 YEARS	8			5			3		
25-34 YEARS	26			7			19		
35-44 YEARS	42			17			25		
45-54 YEARS	68			34			34		
55-64 YEARS	131			85			46		
65 AND OVER	435			278			157		
15. PLACE OF DEATH									
HOSPITAL	498	67.0	64.3	285	65.1	63.1	213	69.8	65.9
OTHER INSTITUTION	133	17.9	19.8	90	20.5	21.7	43	14.1	17.3
HOME OR NON-INSTITUTION	112	15.1	15.9	63	14.4	15.2	49	16.1	16.8
16. OCCURRENCE									
TOTAL	1564	2.7	2.6	934	2.1	2.0	630	4.4	4.3
TO RESIDENTS	594	38.0	39.2	343	36.7	36.3	251	39.8	43.4

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GARNER

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	117			78			39		
LIVE BIRTHS									
3. TOTAL	193			135			58		
MALES	96			71			25		
FEMALES	97			64			33		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	187	96.9	97.1	130	96.3	96.8	57	98.3	98.4
PHYSICIAN NOT IN HOSPITAL	1	0.5	0.1	0	0.0	0.0	1	1.7	0.5
#CERTIFIED NURSE MIDWIFE	4	2.1	2.5	4	3.0	2.9	0	0.0	1.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	6	3.1	6.9	3	2.2	5.8	3	5.2	10.5
6. OUT OF WEDLOCK	37	19.2	14.4	14	10.4	7.0	23	39.7	41.1
7. OCCURRENCE									
TOTAL	1	0.0	0.0	0	0.0	0.0	1	0.0	0.0
TO RESIDENTS	1	100.0	100.0	0		100.0	1	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	0	0.0	18.2	0	0.0	11.7	0	0.0	41.0
9. FETAL DEATHS	0	0.0	7.9	0	0.0	2.9	0	0.0	25.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		85.7	0		100.0	0		80.0
PHYSICIAN NOT IN HOSPITAL	0		14.3	0		0.0	0		20.0
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		0.0
PERMITTED MIDWIFE	0		0.0	0		0.0	0		0.0
OUT OF WEDLOCK	0		57.1	0		50.0	0		60.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	10.3	0	0.0	8.8	0	0.0	15.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	10.4	4.6	1	7.4	2.9	1	17.2	10.7
12. INFANT DEATHS (UNDER 1 YEAR)	2	10.4	14.9	1	7.4	11.7	1	17.2	26.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	76			57			19		
MALES	44			32			12		
FEMALES	32			25			7		
14. AGE									
00-04 YEARS	2			1			1		
05-14 YEARS	2			2			0		
15-24 YEARS	1			0			1		
25-34 YEARS	1			0			1		
35-44 YEARS	4			1			3		
45-54 YEARS	11			7			4		
55-64 YEARS	9			6			3		
65 AND OVER	46			40			6		
15. PLACE OF DEATH									
HOSPITAL	56	73.7	71.8	40	70.2	69.7	16	84.2	80.3
OTHER INSTITUTION	10	13.2	12.1	9	15.8	13.3	1	5.3	7.6
HOME OR NON-INSTITUTION	10	13.2	16.1	8	14.0	17.0	2	10.5	12.1
16. OCCURRENCE									
TOTAL	14	0.0	0.0	12	0.0	0.0	2	0.0	0.0
TO RESIDENTS	13	92.9	88.7	11	91.7	87.3	2	100.0	100.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GASTONIA

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	223			31			192		
LIVE BIRTHS									
3. TOTAL	926			607			319		
MALES	469			303			166		
FEMALES	457			304			153		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	921	99.5	98.0	605	99.7	98.5	316	99.1	97.0
PHYSICIAN NOT IN HOSPITAL	2	0.2	0.1	0	0.0	0.1	2	0.6	0.1
#CERTIFIED NURSE MIDWIFE	2	0.2	1.7	2	0.3	1.3	0	0.0	2.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	90	9.7	9.4	48	7.9	7.2	42	13.2	13.2
6. OUT OF WEDLOCK	367	39.6	36.2	136	22.4	19.8	231	72.4	65.3
7. OCCURRENCE									
TOTAL	2207	2.3	2.2	1776	2.7	2.6	431	1.4	1.4
TO RESIDENTS	738	33.4	33.9	474	26.7	26.6	264	61.3	63.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	23	24.5	25.3	16	26.0	22.2	7	21.7	30.7
9. FETAL DEATHS	11	11.7	10.4	8	13.0	8.9	3	9.3	13.1
ATTENDANT									
PHYSICIAN IN HOSPITAL	9	81.8	93.2	8	100.0	100.0	1	33.3	85.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.3	0	0.0	0.0	0	0.0	5.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	36.4	40.9	2	25.0	20.8	2	66.7	65.0
10. NEONATAL (UNDER 28 DAYS)	12	13.0	15.0	8	13.2	13.4	4	12.5	17.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	1.1	4.8	1	1.7	3.4	0	0.0	7.4
12. INFANT DEATHS (UNDER 1 YEAR)	13	14.0	19.8	9	14.8	16.8	4	12.5	25.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	703			576			127		
MALES	339			274			65		
FEMALES	364			302			62		
14. AGE									
00-04 YEARS	16			10			6		
05-14 YEARS	2			2			0		
15-24 YEARS	13			12			1		
25-34 YEARS	19			12			7		
35-44 YEARS	25			16			9		
45-54 YEARS	56			44			12		
55-64 YEARS	98			78			20		
65 AND OVER	474			402			72		
15. PLACE OF DEATH									
HOSPITAL	446	63.4	64.0	359	62.3	63.7	87	68.5	65.1
OTHER INSTITUTION	130	18.5	15.7	113	19.6	16.5	17	13.4	12.4
HOME OR NON-INSTITUTION	127	18.1	20.3	104	18.1	19.8	23	18.1	22.6
16. OCCURRENCE									
TOTAL	1034	1.8	1.7	877	2.0	2.0	157	1.1	1.1
TO RESIDENTS	577	55.8	55.2	473	53.9	53.0	104	66.2	68.1

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GOLDSBORO

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	280			100			180		
LIVE BIRTHS									
3. TOTAL	671			300			371		
MALES	345			158			187		
FEMALES	326			142			184		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	629	93.7	98.5	267	89.0	97.8	362	97.6	99.2
PHYSICIAN NOT IN HOSPITAL	2	0.3	0.1	1	0.3	0.1	1	0.3	0.2
#CERTIFIED NURSE MIDWIFE	40	6.0	1.2	32	10.7	2.0	8	2.2	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	52	7.7	7.5	15	5.0	4.7	37	10.0	10.0
6. OUT OF WEDLOCK	237	35.3	31.8	21	7.0	5.9	216	58.2	54.4
7. OCCURRENCE									
TOTAL	1637	1.7	1.9	997	1.5	1.7	640	2.0	2.3
TO RESIDENTS	626	38.2	39.0	282	28.3	29.4	344	53.7	54.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	14.8	18.8	5	16.6	16.9	5	13.4	20.4
9. FETAL DEATHS	4	5.9	10.1	2	6.6	8.5	2	5.4	11.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	2	100.0	100.0	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	50.0	38.9	0	0.0	14.3	2	100.0	54.5
10. NEONATAL (UNDER 28 DAYS)	6	8.9	8.8	3	10.0	8.5	3	8.1	9.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	3.0	3.4	0	0.0	1.2	2	5.4	5.3
12. INFANT DEATHS (UNDER 1 YEAR)	8	11.9	12.2	3	10.0	9.8	5	13.5	14.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	391			200			191		
MALES	192			96			96		
FEMALES	199			104			95		
14. AGE									
00-04 YEARS	10			4			6		
05-14 YEARS	3			2			1		
15-24 YEARS	4			2			2		
25-34 YEARS	10			3			7		
35-44 YEARS	16			6			10		
45-54 YEARS	23			7			16		
55-64 YEARS	62			25			37		
65 AND OVER	263			151			112		
15. PLACE OF DEATH									
HOSPITAL	254	65.0	61.6	134	67.0	63.3	120	62.8	60.0
OTHER INSTITUTION	49	12.5	15.3	27	13.5	17.8	22	11.5	12.9
HOME OR NON-INSTITUTION	88	22.5	23.1	39	19.5	19.0	49	25.7	27.0
16. OCCURRENCE									
TOTAL	677	1.2	1.1	429	1.0	0.9	248	1.8	1.[illegible]
TO RESIDENTS	303	44.8	46.2	161	37.5	36.5	142	57.3	62.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GREENSBORO

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	1158			375			783		
LIVE BIRTHS									
3. TOTAL	2744			1475			1269		
MALES	1435			791			644		
FEMALES	1309			684			625		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2713	98.9	98.8	1455	98.6	98.5	1258	99.1	99.2
PHYSICIAN NOT IN HOSPITAL	6	0.2	0.2	1	0.1	0.1	5	0.4	0.3
#CERTIFIED NURSE MIDWIFE	20	0.7	0.8	17	1.2	1.3	3	0.2	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	228	8.3	8.6	84	5.7	5.7	144	11.3	12.3
6. OUT OF WEDLOCK	871	31.7	29.0	164	11.1	8.8	707	55.7	55.3
7. OCCURRENCE									
TOTAL	4702	4.8	4.7	3270	4.9	4.9	1432	4.5	4.3
TO RESIDENTS	2643	56.2	54.5	1410	43.1	42.8	1233	86.1	83.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	49	17.7	16.6	18	12.1	10.3	31	24.1	24.8
9. FETAL DEATHS	25	9.0	6.8	8	5.4	4.4	17	13.2	10.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	25	100.0	97.6	8	100.0	93.3	17	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	2.4	0	0.0	6.7	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	11	44.0	41.0	1	12.5	20.0	10	58.8	52.8
10. NEONATAL (UNDER 28 DAYS)	24	8.7	9.9	10	6.8	6.0	14	11.0	15.0
11. POSTNEONATAL (28 DAYS - 1 YEAR)	12	4.4	4.3	6	4.1	4.7	6	4.8	3.9
12. INFANT DEATHS (UNDER 1 YEAR)	36	13.1	14.2	16	10.8	10.7	20	15.8	18.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1586			1100			486		
MALES	786			522			264		
FEMALES	800			578			222		
14. AGE									
00-04 YEARS	40			17			23		
05-14 YEARS	4			2			2		
15-24 YEARS	23			11			12		
25-34 YEARS	55			29			26		
35-44 YEARS	69			33			36		
45-54 YEARS	99			55			44		
55-64 YEARS	219			137			82		
65 AND OVER	1077			816			261		
15. PLACE OF DEATH									
HOSPITAL	1017	64.1	62.3	660	60.0	59.1	357	73.5	69.7
OTHER INSTITUTION	302	19.0	18.9	249	22.6	22.2	53	10.9	11.4
HOME OR NON-INSTITUTION	267	16.8	18.8	191	17.4	18.8	76	15.6	18.9
16. OCCURRENCE									
TOTAL	2151	3.7	3.8	1587	3.6	3.7	564	4.0	3.9
TO RESIDENTS	1438	66.9	66.6	986	62.1	61.6	452	80.1	81.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

GREENVILLE

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
P O P U L A T I O N									
POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)									
2. NATURAL INCREASE	235			81			154		
L I V E B I R T H S									
3. TOTAL	535			249			286		
MALES	281			140			141		
FEMALES	254			109			145		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	535	100.0	99.7	249	100.0	99.8	286	100.0	99.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	40	7.5	10.8	10	4.0	6.0	30	10.5	15.4
6. OUT OF WEDLOCK	191	35.7	32.9	15	6.0	6.3	176	61.5	58.4
7. OCCURRENCE									
TOTAL	2551	2.6	2.7	1330	2.0	2.0	1221	3.9	4.3
TO RESIDENTS	526	20.6	19.7	243	18.3	19.0	283	23.2	20.5
F E T A L & I N F A N T M O R T A L I T Y									
8. PERINATAL DEATHS	9	16.7	21.3	2	8.0	16.1	7	24.1	26.4
9. FETAL DEATHS	4	7.4	7.5	0	0.0	7.3	4	13.8	7.8
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	0		100.0	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	2	50.0	26.3	0		0.0	2	50.0	50.0
10. NEONATAL (UNDER 28 DAYS)	5	9.3	13.9	2	8.0	8.9	3	10.5	18.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	9.4	4.0	1	4.0	1.6	4	14.1	6.4
12. INFANT DEATHS (UNDER 1 YEAR)	10	18.7	17.9	3	12.0	10.6	7	24.5	25.0
D E A T H S (EXCLUDING FETALS)									
13. TOTAL	300			168			132		
MALES	155			84			71		
FEMALES	145			84			61		
14. AGE									
00-04 YEARS	10			3			7		
05-14 YEARS	2			1			1		
15-24 YEARS	4			2			2		
25-34 YEARS	9			5			4		
35-44 YEARS	11			5			6		
45-54 YEARS	21			5			16		
55-64 YEARS	37			18			19		
65 AND OVER	206			129			77		
15. PLACE OF DEATH									
HOSPITAL	172	57.3	59.0	84	50.0	53.1	88	66.7	65.8
OTHER INSTITUTION	50	16.7	16.0	35	20.8	20.2	15	11.4	11.2
HOME OR NON-INSTITUTION	78	26.0	25.0	49	29.2	26.7	29	22.0	22.9
16. OCCURRENCE									
TOTAL	1106	1.9	1.9	640	1.5	1.4	466	3.3	3.4
TO RESIDENTS	264	23.9	24.8	143	22.3	22.5	121	26.0	27.8

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HAVELOCK

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	702			516			186		
LIVE BIRTHS									
3. TOTAL	739			547			192		
MALES	344			251			93		
FEMALES	395			296			99		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	695	94.0	94.4	513	93.8	94.2	182	94.8	95.1
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.1	1	0.2	0.2	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	43	5.8	4.9	33	6.0	5.1	10	5.2	4.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	40	5.4	6.1	26	4.8	5.3	14	7.3	8.8
6. OUT OF WEDLOCK	48	6.5	5.0	22	4.0	3.5	26	13.5	10.3
7. OCCURRENCE									
TOTAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
TO RESIDENTS	0		100.0	0			0		100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	13.4	12.9	4	7.3	10.7	6	30.6	20.3
9. FETAL DEATHS	6	8.1	5.7	2	3.6	4.8	4	20.4	8.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	100.0	2	100.0	100.0	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	0	0.0	10.0	0	0.0	7.7	0	0.0	14.3
10. NEONATAL (UNDER 28 DAYS)	4	5.4	7.2	2	3.7	5.9	2	10.4	11.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	4.1	3.5	3	5.5	3.4	0	0.0	3.9
12. INFANT DEATHS (UNDER 1 YEAR)	7	9.5	10.6	5	9.1	9.3	2	10.4	15.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	37			31			6		
MALES	17			13			4		
FEMALES	20			18			2		
14. AGE									
00-04 YEARS	7			5			2		
05-14 YEARS	1			1			0		
15-24 YEARS	1			0			1		
25-34 YEARS	2			1			1		
35-44 YEARS	2			2			0		
45-54 YEARS	2			2			0		
55-64 YEARS	4			4			0		
65 AND OVER	18			16			2		
15. PLACE OF DEATH									
HOSPITAL	27	73.0	75.3	23	74.2	74.7	4	66.7	79.2
OTHER INSTITUTION	2	5.4	9.8	2	6.5	10.0	0	0.0	8.3
HOME OR NON-INSTITUTION	8	21.6	14.9	6	19.4	15.3	2	33.3	12.5
16. OCCURRENCE									
TOTAL	10	0.0	0.0	8	0.0	0.0	2	0.0	0.0
TO RESIDENTS	9	90.0	87.5	7	87.5	89.3	2	100.0	75.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HENDERSON

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	35			-48			83		
LIVE BIRTHS									
3. TOTAL	257			76			181		
MALES	133			40			93		
FEMALES	124			36			88		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	254	98.8	99.2	76	100.0	98.9	178	98.3	99.4
PHYSICIAN NOT IN HOSPITAL	2	0.8	0.3	0	0.0	0.2	2	1.1	0.4
#CERTIFIED NURSE MIDWIFE	0	0.0	0.2	0	0.0	0.5	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	26	10.1	10.5	8	10.5	9.0	18	9.9	11.2
6. OUT OF WEDLOCK	125	48.6	44.7	12	15.8	11.5	113	62.4	62.7
7. OCCURRENCE									
TOTAL	1	0.0	0.0	0	0.0	0.0	1	0.0	0.0
TO RESIDENTS	1	100.0	100.0	0		100.0	1	100.0	100.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	26.6	24.9	3	38.5	20.0	4	21.6	27.6
9. FETAL DEATHS	6	22.8	16.4	2	25.6	17.7	4	21.6	[illegible]
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	83.3	95.2	2	100.0	100.0	3	75.0	92.3
PHYSICIAN NOT IN HOSPITAL	1	16.7	4.8	0	0.0	0.0	1	25.0	7.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	66.7	23.8	0	0.0	12.5	4	100.0	[illegible]
10. NEONATAL (UNDER 28 DAYS)	1	3.9	8.7	1	13.2	2.3	0	0.0	12.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	3.9	4.8	0	0.0	0.0	1	5.5	7.4
12. INFANT DEATHS (UNDER 1 YEAR)	2	7.8	13.5	1	13.2	2.3	1	5.5	19.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	222			124			98		
MALES	111			56			55		
FEMALES	111			68			43		
14. AGE									
00-04 YEARS	4			1			3		
05-14 YEARS	1			0			1		
15-24 YEARS	3			0			3		
25-34 YEARS	4			2			2		
35-44 YEARS	8			4			4		
45-54 YEARS	12			3			9		
55-64 YEARS	23			7			16		
65 AND OVER	167			107			60		
15. PLACE OF DEATH									
HOSPITAL	110	49.5	56.8	48	38.7	50.7	62	63.3	65.0
OTHER INSTITUTION	56	25.2	20.7	45	36.3	28.0	11	11.2	11.0
HOME OR NON-INSTITUTION	56	25.2	22.4	31	25.0	21.3	25	25.5	24.0
16. OCCURRENCE									
TOTAL	96	0.2	0.2	61	0.1	0.1	35	0.2	0.2
TO RESIDENTS	87	90.6	84.8	55	90.2	80.6	32	91.4	93.1

---

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HICKORY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	106			17			89		
LIVE BIRTHS									
3. TOTAL	465			329			136		
MALES	240			165			75		
FEMALES	225			164			61		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	465	100.0	99.9	329	100.0	100.0	136	100.0	99.6
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	39	8.4	9.5	25	7.6	8.0	14	10.3	13.5
6. OUT OF WEDLOCK	153	32.9	28.3	62	18.8	15.4	91	66.9	64.2
7. OCCURRENCE									
TOTAL	2199	2.2	2.2	1922	2.9	2.9	277	0.9	0.8
TO RESIDENTS	429	19.5	18.3	304	15.8	14.9	125	45.1	46.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	11	23.2	20.8	10	29.6	21.6	1	7.3	18.4
9. FETAL DEATHS	10	21.1	13.0	9	26.6	14.4	1	7.3	9.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	10	100.0	100.0	9	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	20.0	37.0	1	11.1	22.7	1	100.0	100.0
10. NEONATAL (UNDER 28 DAYS)	1	2.2	7.8	1	3.0	7.3	0	0.0	9.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	8.6	5.9	4	12.2	6.7	0	0.0	3.7
12. INFANT DEATHS (UNDER 1 YEAR)	5	10.8	13.7	5	15.2	14.0	0	0.0	13.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	359			312			47		
MALES	181			155			26		
FEMALES	178			157			21		
14. AGE									
00-04 YEARS	6			6			0		
05-14 YEARS	1			1			0		
15-24 YEARS	5			4			1		
25-34 YEARS	6			5			1		
35-44 YEARS	8			6			2		
45-54 YEARS	15			11			4		
55-64 YEARS	45			36			9		
65 AND OVER	273			243			30		
15. PLACE OF DEATH									
HOSPITAL	202	56.3	59.4	173	55.4	58.8	29	61.7	63.8
OTHER INSTITUTION	81	22.6	24.7	71	22.8	25.4	10	21.3	19.5
HOME OR NON-INSTITUTION	76	21.2	15.9	68	21.8	15.8	8	17.0	16.7
16. OCCURRENCE									
TOTAL	879	1.5	1.5	802	1.8	1.8	77	0.5	0.5
TO RESIDENTS	303	34.5	33.6	262	32.7	32.1	41	53.2	50.6

---

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

HIGH POINT

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)									
2. NATURAL INCREASE	275			-20			295		
LIVE BIRTHS									
3. TOTAL	1051			594			457		
MALES	539			296			243		
FEMALES	512			298			214		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1019	97.0	96.8	567	95.5	95.6	452	98.9	98.4
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.2	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	29	2.8	2.8	25	4.2	4.0	4	0.9	1.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	97	9.2	10.2	41	6.9	6.9	56	12.3	14.3
6. OUT OF WEDLOCK	394	37.5	36.2	94	15.8	13.1	300	65.6	65.5
7. OCCURRENCE									
TOTAL	1901	1.9	1.9	1407	2.1	2.0	494	1.6	1.6
TO RESIDENTS	904	47.6	49.1	470	33.4	35.0	434	87.9	88.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	20	18.8	19.6	7	11.7	19.0	13	28.1	20.3
9. FETAL DEATHS	12	11.3	9.0	6	10.0	9.8	6	13.0	7.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	12	100.0	95.5	6	100.0	100.0	6	100.0	88.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	2.3	0	0.0	0.0	0	0.0	5.9
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	33.3	29.5	1	16.7	22.2	3	50.0	41.2
10. NEONATAL (UNDER 28 DAYS)	8	7.6	10.7	1	1.7	9.2	7	15.3	12.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	12	11.5	5.6	4	6.7	4.8	8	17.8	6.6
12. INFANT DEATHS (UNDER 1 YEAR)	20	19.0	16.2	5	8.4	14.0	15	32.8	19.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	776			614			162		
MALES	384			289			95		
FEMALES	392			325			67		
14. AGE									
00-04 YEARS	23			7			16		
05-14 YEARS	3			3			0		
15-24 YEARS	7			4			3		
25-34 YEARS	23			14			9		
35-44 YEARS	29			9			20		
45-54 YEARS	43			28			15		
55-64 YEARS	95			70			25		
65 AND OVER	553			479			74		
15. PLACE OF DEATH									
HOSPITAL	462	59.5	57.8	348	56.7	56.3	114	70.4	63.1
OTHER INSTITUTION	164	21.1	23.5	151	24.6	26.1	13	8.0	14.2
HOME OR NON-INSTITUTION	150	19.3	18.7	115	18.7	17.6	35	21.6	22.7
16. OCCURRENCE									
TOTAL	907	1.6	1.7	758	1.7	1.8	149	1.1	1.2
TO RESIDENTS	652	71.9	70.1	523	69.0	67.0	129	86.6	84.9

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

JACKSONVILLE

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
			POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)						
2. NATURAL INCREASE	967			577			390		
LIVE BIRTHS									
3. TOTAL	1174			726			448		
MALES	558			338			220		
FEMALES	616			388			228		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	1168	99.5	99.7	722	99.4	99.7	446	99.6	99.8
PHYSICIAN NOT IN HOSPITAL	2	0.2	0.1	1	0.1	0.1	1	0.2	0.1
#CERTIFIED NURSE MIDWIFE	4	0.3	0.1	3	0.4	0.1	1	0.2	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	97	8.3	7.3	42	5.8	5.7	55	12.3	10.5
6. OUT OF WEDLOCK	172	14.7	12.1	56	7.7	6.5	116	25.9	23.5
7. OCCURRENCE									
TOTAL	2324	2.4	2.2	1694	2.6	2.4	630	2.0	1.7
TO RESIDENTS	766	33.0	31.1	471	27.8	27.1	295	46.8	43.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	18	15.2	14.7	10	13.7	13.1	8	17.7	17.8
9. FETAL DEATHS	9	7.6	5.8	5	6.8	6.1	4	8.8	5.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	9	100.0	93.5	5	100.0	90.9	4	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	22.2	9.7	1	20.0	4.5	1	25.0	22.2
10. NEONATAL (UNDER 28 DAYS)	9	7.7	8.9	5	6.9	7.0	4	8.9	12.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	2.6	4.0	0	0.0	3.1	3	6.8	5.9
12. INFANT DEATHS (UNDER 1 YEAR)	12	10.2	12.9	5	6.9	10.1	7	15.6	18.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	207			149			58		
MALES	109			80			29		
FEMALES	98			69			29		
14. AGE									
00-04 YEARS	14			7			7		
05-14 YEARS	7			4			3		
15-24 YEARS	3			3			0		
25-34 YEARS	6			4			2		
35-44 YEARS	14			8			6		
45-54 YEARS	15			7			8		
55-64 YEARS	33			26			7		
65 AND OVER	115			90			25		
15. PLACE OF DEATH									
HOSPITAL	144	69.6	65.8	103	69.1	65.3	41	70.7	67.2
OTHER INSTITUTION	36	17.4	21.2	28	18.8	20.8	8	13.8	22.3
HOME OR NON-INSTITUTION	27	13.0	12.9	18	12.1	13.8	9	15.5	10.5
16. OCCURRENCE									
TOTAL	336	0.6	0.6	236	0.5	0.6	100	0.7	0.7
TO RESIDENTS	147	43.8	36.6	106	44.9	36.3	41	41.0	37.6

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

KINSTON

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	4			-84			88		
LIVE BIRTHS									
3. TOTAL	374			101			273		
MALES	192			48			144		
FEMALES	182			53			129		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	373	99.7	99.8	100	99.0	99.8	273	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.0	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	1	0.3	0.1	1	1.0	0.2	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	45	12.0	11.6	9	8.9	8.5	36	13.2	12.9
6. OUT OF WEDLOCK	181	48.4	46.2	13	12.9	12.7	168	61.5	59.8
7. OCCURRENCE									
TOTAL	890	0.9	0.9	477	0.7	0.7	413	1.3	1.3
TO RESIDENTS	342	38.4	38.1	88	18.4	19.0	254	61.5	61.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	18.5	17.2	1	9.8	7.7	6	21.7	21.1
9. FETAL DEATHS	4	10.6	7.8	1	9.8	3.8	3	10.9	9.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	100.0	1	100.0	100.0	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	50.0	64.3	0	0.0	0.0	2	66.7	75.0
10. NEONATAL (UNDER 28 DAYS)	3	8.0	9.5	0	0.0	3.9	3	11.0	11.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	10.8	9.0	1	9.9	7.8	3	11.1	9.6
12. INFANT DEATHS (UNDER 1 YEAR)	7	18.7	18.5	1	9.9	11.6	6	22.0	21.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	370			185			185		
MALES	178			81			97		
FEMALES	192			104			88		
14. AGE									
00-04 YEARS	8			2			6		
05-14 YEARS	0			0			0		
15-24 YEARS	10			6			4		
25-34 YEARS	6			3			5		
35-44 YEARS	15			7			8		
45-54 YEARS	23			8			15		
55-64 YEARS	46			23			23		
65 AND OVER	260			136			124		
15. PLACE OF DEATH									
HOSPITAL	247	66.8	62.6	125	67.6	62.9	122	65.9	62.3
OTHER INSTITUTION	40	10.8	17.4	20	10.8	18.7	20	10.8	16.1
HOME OR NON-INSTITUTION	83	22.4	20.0	40	21.6	18.5	43	23.2	21.6
16. OCCURRENCE									
TOTAL	525	0.9	1.0	309	0.7	0.8	216	1.5	1.6
TO RESIDENTS	293	55.8	52.6	146	47.2	46.7	147	68.1	61.3

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LAURINBURG

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	38			-28			66		
LIVE BIRTHS									
3. TOTAL	195			51			144		
MALES	109			34			75		
FEMALES	86			17			69		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	195	100.0	99.8	51	100.0	99.7	144	100.0	99.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	25	12.8	9.4	4	7.8	6.9	21	14.6	10.7
6. OUT OF WEDLOCK	124	63.6	52.5	13	25.5	21.1	111	77.1	67.7
7. OCCURRENCE									
TOTAL	857	0.9	1.0	298	0.5	0.5	559	1.8	2.0
TO RESIDENTS	169	19.7	20.9	42	14.1	18.0	127	22.7	22.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	35.0	26.0	0	0.0	6.0	7	47.0	35.6
9. FETAL DEATHS	5	25.0	20.3	0	0.0	6.0	5	33.6	27.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	5	100.0	95.2	0		100.0	5	100.0	94.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	4	80.0	71.4	0		50.0	4	80.0	73.7
10. NEONATAL (UNDER 28 DAYS)	2	10.3	5.9	0	0.0	0.0	2	13.9	8.8
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	5.2	5.0	0	0.0	3.0	1	7.0	5.9
12. INFANT DEATHS (UNDER 1 YEAR)	3	15.4	10.8	0	0.0	3.0	3	20.8	14.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	157			79			78		
MALES	76			41			35		
FEMALES	81			38			43		
14. AGE									
00-04 YEARS	3			0			3		
05-14 YEARS	1			0			1		
15-24 YEARS	3			3			0		
25-34 YEARS	3			1			2		
35-44 YEARS	10			3			7		
45-54 YEARS	11			5			6		
55-64 YEARS	20			8			12		
65 AND OVER	106			59			47		
15. PLACE OF DEATH									
HOSPITAL	90	57.3	65.5	42	53.2	65.5	48	61.5	65.6
OTHER INSTITUTION	36	22.9	15.1	21	26.6	15.3	15	19.2	14.9
HOME OR NON-INSTITUTION	31	19.7	19.4	16	20.3	19.2	15	19.2	19.6
16. OCCURRENCE									
TOTAL	254	0.4	0.5	134	0.3	0.3	120	0.8	0.9
TO RESIDENTS	114	44.9	43.4	62	46.3	43.5	52	43.3	43.3

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LENOIR

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)									
2. NATURAL INCREASE	94			44			50		
LIVE BIRTHS									
3. TOTAL	277			204			73		
MALES	143			101			42		
FEMALES	134			103			31		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	276	99.6	99.8	204	100.0	100.0	72	98.6	99.2
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.0	0	0.0	0.4
#CERTIFIED NURSE MIDWIFE	1	0.4	0.1	0	0.0	0.0	1	1.4	0.4
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	29	10.5	9.8	15	7.4	8.9	14	19.2	13.4
6. OUT OF WEDLOCK	106	38.3	31.7	52	25.5	22.2	54	74.0	66.4
7. OCCURRENCE									
TOTAL	462	0.5	0.5	387	0.6	0.7	75	0.2	0.2
TO RESIDENTS	163	35.3	32.1	106	27.4	26.8	57	76.0	68.3
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	21.4	13.0	4	19.4	11.0	2	27.0	20.0
9. FETAL DEATHS	3	10.7	7.8	2	9.7	6.6	1	13.5	12.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	2	100.0	100.0	1	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	66.7	44.4	1	50.0	33.3	1	100.0	66.7
10. NEONATAL (UNDER 28 DAYS)	3	10.8	5.2	2	9.8	4.4	1	13.7	8.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	7.3	4.4	1	5.0	1.1	1	13.9	16.3
12. INFANT DEATHS (UNDER 1 YEAR)	5	18.1	9.6	3	14.7	5.5	2	27.4	24.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	183			160			23		
MALES	96			88			8		
FEMALES	87			72			15		
14. AGE									
00-04 YEARS	5			3			2		
05-14 YEARS	0			0			0		
15-24 YEARS	1			1			0		
25-34 YEARS	3			3			0		
35-44 YEARS	6			5			1		
45-54 YEARS	15			12			3		
55-64 YEARS	18			17			1		
65 AND OVER	135			119			16		
15. PLACE OF DEATH									
HOSPITAL	127	69.4	64.4	111	69.4	63.2	16	69.6	72.8
OTHER INSTITUTION	21	11.5	15.1	19	11.9	15.7	2	8.7	10.5
HOME OR NON-INSTITUTION	35	19.1	20.5	30	18.8	21.1	5	21.7	16.7
16. OCCURRENCE									
TOTAL	294	0.5	0.5	264	0.6	0.6	30	0.2	0.2
TO RESIDENTS	134	45.6	45.7	115	43.6	43.9	19	63.3	63.4

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LEXINGTON

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	79			27			52		
LIVE BIRTHS									
3. TOTAL	284			168			116		
MALES	136			76			60		
FEMALES	148			92			56		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	282	99.3	98.1	168	100.0	98.9	114	98.3	96.9
PHYSICIAN NOT IN HOSPITAL	1	0.4	0.1	0	0.0	0.0	1	0.9	0.2
#CERTIFIED NURSE MIDWIFE	0	0.0	0.2	0	0.0	0.1	0	0.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	32	11.3	10.0	15	8.9	8.7	17	14.7	12.0
6. OUT OF WEDLOCK	133	46.8	40.8	40	23.8	21.7	93	80.2	69.0
7. OCCURRENCE									
TOTAL	567	0.6	0.6	435	0.7	0.7	132	0.4	0.5
TO RESIDENTS	206	36.3	32.5	107	24.6	23.0	99	75.0	65.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	9	31.4	22.0	1	6.0	10.9	8	67.2	38.1
9. FETAL DEATHS	3	10.5	8.9	0	0.0	4.1	3	25.2	16.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	66.7	90.9	0		100.0	2	66.7	87.5
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	3	100.0	54.5	0		33.3	3	100.0	62.5
10. NEONATAL (UNDER 28 DAYS)	6	21.1	13.1	1	6.0	6.9	5	43.1	22.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	5.8	0	0.0	6.9	0	0.0	4.2
12. INFANT DEATHS (UNDER 1 YEAR)	6	21.1	18.9	1	6.0	13.7	5	43.1	26.5
DEATHS (EXCLUDING FETALS)									
13. TOTAL	205			141			64		
MALES	117			75			42		
FEMALES	88			66			22		
14. AGE									
00-04 YEARS	6			1			5		
05-14 YEARS	0			0			0		
15-24 YEARS	2			0			2		
25-34 YEARS	7			5			2		
35-44 YEARS	7			4			3		
45-54 YEARS	19			14			5		
55-64 YEARS	38			24			14		
65 AND OVER	126			93			33		
15. PLACE OF DEATH									
HOSPITAL	149	72.7	68.8	100	70.9	67.7	49	76.6	72.2
OTHER INSTITUTION	25	12.2	16.2	18	12.8	16.1	7	10.9	16.6
HOME OR NON-INSTITUTION	31	15.1	15.0	23	16.3	16.2	8	12.5	11.2
16. OCCURRENCE									
TOTAL	186	0.3	0.4	146	0.3	0.5	40	0.3	0.2
TO RESIDENTS	110	59.1	48.3	73	50.0	42.9	37	92.5	81.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

LUMBERTON

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	111			-41			152		
LIVE BIRTHS									
3. TOTAL	348			122			226		
MALES	162			57			105		
FEMALES	186			65			121		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	314	90.2	94.0	109	89.3	94.7	205	90.7	93.6
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.2	0	0.0	0.2	0	0.0	0.2
#CERTIFIED NURSE MIDWIFE	33	9.5	5.6	13	10.7	5.1	20	8.8	6.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	39	11.2	9.7	11	9.0	6.8	28	12.4	11.4
6. OUT OF WEDLOCK	188	54.0	43.4	26	21.3	15.3	162	71.7	60.4
7. OCCURRENCE									
TOTAL	1311	1.3	1.6	388	0.6	0.7	923	2.9	3.6
TO RESIDENTS	309	23.6	19.8	109	28.1	25.6	200	21.7	17.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	8.6	15.8	0	0.0	15.1	3	13.2	16.3
9. FETAL DEATHS	2	5.7	11.4	0	0.0	11.8	2	8.8	11.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	1	50.0	94.4	0		100.0	1	50.0	90.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	1	50.0	5.6	0		0.0	1	50.0	9.1
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	1	50.0	38.9	0		14.3	1	50.0	54.5
10. NEONATAL (UNDER 28 DAYS)	1	2.9	4.5	0	0.0	3.4	1	4.4	5.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	8.6	5.8	1	8.2	6.8	2	8.9	5.2
12. INFANT DEATHS (UNDER 1 YEAR)	4	11.5	10.2	1	8.2	10.2	3	13.3	10.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	237			163			74		
MALES	133			94			39		
FEMALES	104			69			35		
14. AGE									
00-04 YEARS	4			1			3		
05-14 YEARS	1			0			1		
15-24 YEARS	3			3			0		
25-34 YEARS	6			1			5		
35-44 YEARS	3			1			2		
45-54 YEARS	14			10			4		
55-64 YEARS	33			24			9		
65 AND OVER	173			123			50		
15. PLACE OF DEATH									
HOSPITAL	168	70.9	68.8	114	69.9	65.7	54	73.0	73.8
OTHER INSTITUTION	42	17.7	17.3	30	18.4	20.3	12	16.2	12.3
HOME OR NON-INSTITUTION	27	11.4	13.9	19	11.7	13.9	8	10.8	13.9
16. OCCURRENCE									
TOTAL	552	1.0	1.1	288	0.7	0.7	264	1.9	2.2
TO RESIDENTS	175	31.7	30.2	123	42.7	37.8	52	19.7	22.4

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MONROE

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	152			26			126		
LIVE BIRTHS									
3. TOTAL	341			147			194		
MALES	189			84			105		
FEMALES	152			63			89		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	340	99.7	99.5	146	99.3	99.1	194	100.0	99.9
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.3	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.1	0	0.0	0.3	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	40	11.7	9.6	8	5.4	7.3	32	16.5	11.6
6. OUT OF WEDLOCK	157	46.0	42.9	19	12.9	13.8	138	71.1	67.0
7. OCCURRENCE									
TOTAL	584	0.6	0.8	275	0.4	0.7	309	1.0	1.0
TO RESIDENTS	244	41.8	31.4	71	25.8	19.5	173	56.0	48.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	29.0	21.1	3	20.3	15.1	7	35.5	26.1
9. FETAL DEATHS	4	11.6	10.2	1	6.8	7.5	3	15.2	12.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	75.0	86.7	0	0.0	60.0	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	4	100.0	40.0	1	100.0	20.0	3	100.0	50.0
10. NEONATAL (UNDER 28 DAYS)	6	17.6	11.0	2	13.6	7.6	4	20.6	13.9
11. POSTNEONATAL (28 DAYS - 1 YEAR)	3	9.0	5.6	0	0.0	0.0	3	15.8	10.2
12. INFANT DEATHS (UNDER 1 YEAR)	9	26.4	16.5	2	13.6	7.6	7	36.1	23.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	189			121			68		
MALES	89			56			33		
FEMALES	100			65			35		
14. AGE									
00-04 YEARS	11			2			9		
05-14 YEARS	1			0			1		
15-24 YEARS	1			1			0		
25-34 YEARS	5			3			2		
35-44 YEARS	10			5			5		
45-54 YEARS	23			10			13		
55-64 YEARS	33			22			11		
65 AND OVER	105			78			27		
15. PLACE OF DEATH									
HOSPITAL	120	63.5	69.6	77	63.6	69.8	43	63.2	69.2
OTHER INSTITUTION	30	15.9	13.3	25	20.7	15.4	5	7.4	8.6
HOME OR NON-INSTITUTION	39	20.6	17.1	19	15.7	14.7	20	29.4	22.2
16. OCCURRENCE									
TOTAL	334	0.6	0.5	250	0.6	0.6	84	0.6	0.5
TO RESIDENTS	124	37.1	37.8	75	30.0	33.1	49	58.3	53.6

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

MORGANTON

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	8			-18			26		
LIVE BIRTHS									
3. TOTAL	198			141			57		
MALES	103			74			29		
FEMALES	95			67			28		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	198	100.0	99.5	141	100.0	99.4	57	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	18	9.1	10.6	11	7.8	8.7	7	12.3	15.5
6. OUT OF WEDLOCK	73	36.9	31.3	36	25.5	20.6	37	64.9	59.8
7. OCCURRENCE									
TOTAL	720	0.7	0.8	627	0.9	1.0	93	0.3	0.3
TO RESIDENTS	151	21.0	19.5	100	15.9	15.5	51	54.8	51.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	4	20.2	18.1	3	21.3	17.1	1	17.5	20.7
9. FETAL DEATHS	0	0.0	5.6	0	0.0	4.7	0	0.0	8.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		0.0
PERMITTED MIDWIFE	0		0.0	0		0.0	0		0.0
OUT OF WEDLOCK	0		60.0	0		33.3	0		100.0
10. NEONATAL (UNDER 28 DAYS)	4	20.2	12.5	3	21.3	12.5	1	17.5	12.6
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	5.2	4.6	0	0.0	3.2	1	17.9	8.5
12. INFANT DEATHS (UNDER 1 YEAR)	5	25.3	17.0	3	21.3	15.6	2	35.1	20.9
DEATHS (EXCLUDING FETALS)									
13. TOTAL	190			159			31		
MALES	93			79			14		
FEMALES	97			80			17		
14. AGE									
00-04 YEARS	6			4			2		
05-14 YEARS	0			0			0		
15-24 YEARS	7			6			1		
25-34 YEARS	3			3			0		
35-44 YEARS	5			3			2		
45-54 YEARS	10			8			2		
55-64 YEARS	26			20			6		
65 AND OVER	133			115			18		
15. PLACE OF DEATH									
HOSPITAL	125	65.8	62.6	101	63.5	61.7	24	77.4	67.7
OTHER INSTITUTION	33	17.4	21.7	30	18.9	22.2	3	9.7	18.9
HOME OR NON-INSTITUTION	32	16.8	15.7	28	17.6	16.1	4	12.9	13.4
16. OCCURRENCE									
TOTAL	340	0.6	0.5	294	0.7	0.6	46	0.3	0.2
TO RESIDENTS	146	42.9	42.8	120	40.8	40.5	26	56.5	61.6

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

NEW BERN

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)									
2. NATURAL INCREASE	138			29			109		
LIVE BIRTHS									
3. TOTAL	376			189			187		
MALES	191			99			92		
FEMALES	185			90			95		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	340	90.4	88.5	162	85.7	86.0	178	95.2	90.9
PHYSICIAN NOT IN HOSPITAL	9	2.4	1.7	8	4.2	3.0	1	0.5	0.3
#CERTIFIED NURSE MIDWIFE	26	6.9	9.7	18	9.5	10.8	8	4.3	8.6
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	39	10.4	9.2	11	5.8	6.2	28	15.0	12.2
6. OUT OF WEDLOCK	124	33.0	32.8	17	9.0	11.2	107	57.2	54.5
7. OCCURRENCE									
TOTAL	1073	1.1	1.2	683	1.0	1.1	390	1.2	1.3
TO RESIDENTS	289	26.9	26.0	137	20.1	18.8	152	39.0	39.5
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	18.5	19.1	0	0.0	10.4	7	36.8	27.7
9. FETAL DEATHS	3	7.9	7.5	0	0.0	4.6	3	15.8	10.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	84.6	0		100.0	3	100.0	77.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	7.7	0		0.0	0	0.0	11.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	0	0.0	30.8	0		25.0	0	0.0	33.3
10. NEONATAL (UNDER 28 DAYS)	4	10.6	11.6	0	0.0	5.8	4	21.4	17.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	5.4	2.9	1	5.3	2.3	1	5.5	3.6
12. INFANT DEATHS (UNDER 1 YEAR)	6	16.0	14.6	1	5.3	8.1	5	26.7	21.0
DEATHS (EXCLUDING FETALS)									
13. TOTAL	238			160			78		
MALES	116			76			40		
FEMALES	122			84			38		
14. AGE									
00-04 YEARS	7			1			6		
05-14 YEARS	0			0			0		
15-24 YEARS	0			0			0		
25-34 YEARS	8			5			3		
35-44 YEARS	7			3			4		
45-54 YEARS	13			4			9		
55-64 YEARS	27			17			10		
65 AND OVER	176			130			46		
15. PLACE OF DEATH									
HOSPITAL	168	70.6	67.3	115	71.9	66.9	53	67.9	68.1
OTHER INSTITUTION	22	9.2	13.7	18	11.2	14.9	4	5.1	11.4
HOME OR NON-INSTITUTION	48	20.2	19.0	27	16.9	18.2	21	26.9	20.4
16. OCCURRENCE									
TOTAL	565	1.0	1.0	388	0.9	0.9	177	1.2	1.2
TO RESIDENTS	205	36.3	35.1	136	35.1	33.1	69	39.0	39.8

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

RALEIGH

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	84-88	NUMBER 1988	RATE* 1988	84-88	NUMBER 1988	RATE* 1988	84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	1551			709			842		
LIVE BIRTHS									
3. TOTAL	2947			1687			1260		
MALES	1472			834			638		
FEMALES	1475			853			622		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2849	96.7	96.2	1600	94.8	94.2	1249	99.1	99.0
PHYSICIAN NOT IN HOSPITAL	4	0.1	0.1	1	0.1	0.1	3	0.2	0.1
#CERTIFIED NURSE MIDWIFE	91	3.1	3.6	83	4.9	5.5	8	0.6	0.8
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	208	7.1	7.8	82	4.9	5.2	126	10.0	11.4
6. OUT OF WEDLOCK	778	26.4	23.4	128	7.6	6.5	650	51.6	47.9
7. OCCURRENCE									
TOTAL	7061	7.2	6.7	5009	7.6	7.1	2052	6.5	6.0
TO RESIDENTS	2850	40.4	39.9	1619	32.3	32.7	1231	60.0	58.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	58	19.5	21.6	26	15.3	16.4	32	25.0	29.1
9. FETAL DEATHS	31	10.4	10.6	11	6.5	8.3	20	15.6	14.0
ATTENDANT									
PHYSICIAN IN HOSPITAL	31	100.0	97.8	11	100.0	95.2	20	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	1.5	0	0.0	3.2	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.7	0	0.0	1.6	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	9	29.0	34.3	0	0.0	14.3	9	45.0	51.4
10. NEONATAL (UNDER 28 DAYS)	27	9.2	11.1	15	8.9	8.2	12	9.5	15.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	9	3.1	3.9	2	1.2	3.2	7	5.6	4.9
12. INFANT DEATHS (UNDER 1 YEAR)	36	12.2	14.9	17	10.1	11.4	19	15.1	20.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1396			978			418		
MALES	716			485			231		
FEMALES	680			493			187		
14. AGE									
00-04 YEARS	46			23			23		
05-14 YEARS	6			2			4		
15-24 YEARS	32			17			15		
25-34 YEARS	50			28			22		
35-44 YEARS	70			34			36		
45-54 YEARS	82			52			30		
55-64 YEARS	176			112			64		
65 AND OVER	934			710			224		
15. PLACE OF DEATH									
HOSPITAL	881	63.1	64.2	585	59.8	62.1	296	70.8	69.1
OTHER INSTITUTION	239	17.1	18.3	190	19.4	20.9	49	11.7	12.2
HOME OR NON-INSTITUTION	276	19.8	17.5	203	20.8	16.9	73	17.5	18.7
16. OCCURRENCE									
TOTAL	2323	4.0	4.0	1714	3.9	3.9	609	4.3	4.4
TO RESIDENTS	1250	53.8	53.4	883	51.5	51.0	367	60.3	60.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

REIDSVILLE

	TOTAL			WHITE			NONWHITE		
	NUMBER	RATE*		NUMBER	RATE*		NUMBER	RATE*	
ITEM	1988	1988	84-88	1988	1988	84-88	1988	1988	84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	-32			-25			-7		
LIVE BIRTHS									
3. TOTAL	168			96			72		
MALES	96			56			40		
FEMALES	72			40			32		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	166	98.8	99.4	95	99.0	99.1	71	98.6	99.7
PHYSICIAN NOT IN HOSPITAL	1	0.6	0.2	0	0.0	0.2	1	1.4	0.3
#CERTIFIED NURSE MIDWIFE	1	0.6	0.2	1	1.0	0.4	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	12	7.1	8.1	4	4.2	5.5	8	11.1	11.1
6. OUT OF WEDLOCK	67	39.9	37.3	18	18.8	15.8	49	68.1	62.6
7. OCCURRENCE									
TOTAL	326	0.3	0.4	190	0.3	0.3	136	0.4	0.5
TO RESIDENTS	100	30.7	31.2	47	24.7	23.5	53	39.0	41.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	17.5	18.3	0	0.0	4.2	3	40.0	34.7
9. FETAL DEATHS	3	17.5	9.1	0	0.0	4.2	3	40.0	14.9
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	66.7	87.5	0		100.0	2	66.7	83.3
PHYSICIAN NOT IN HOSPITAL	1	33.3	12.5	0		0.0	1	33.3	16.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	3	100.0	62.5	0		0.0	3	100.0	83.3
10. NEONATAL (UNDER 28 DAYS)	0	0.0	9.2	0	0.0	0.0	0	0.0	20.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	6.0	5.8	0	0.0	2.1	1	13.9	10.3
12. INFANT DEATHS (UNDER 1 YEAR)	1	6.0	15.0	0	0.0	2.1	1	13.9	30.2
DEATHS (EXCLUDING FETALS)									
13. TOTAL	200			121			79		
MALES	90			51			39		
FEMALES	110			70			40		
14. AGE									
00-04 YEARS	2			1			1		
05-14 YEARS	2			1			1		
15-24 YEARS	2			1			1		
25-34 YEARS	4			1			3		
35-44 YEARS	5			1			4		
45-54 YEARS	12			6			6		
55-64 YEARS	21			10			11		
65 AND OVER	152			100			52		
15. PLACE OF DEATH									
HOSPITAL	141	70.5	70.9	85	70.2	69.6	56	70.9	72.8
OTHER INSTITUTION	28	14.0	13.7	20	16.5	16.3	8	10.1	9.9
HOME OR NON-INSTITUTION	31	15.5	15.4	16	13.2	14.1	15	19.0	17.3
16. OCCURRENCE									
TOTAL	294	0.5	0.5	188	0.4	0.5	106	0.7	0.7
TO RESIDENTS	142	48.3	46.6	81	43.1	40.9	61	57.5	57.5

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ROANOKE RAPIDS

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	15			-37			52		
LIVE BIRTHS									
3. TOTAL	207			126			81		
MALES	110			66			44		
FEMALES	97			60			37		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	206	99.5	99.7	125	99.2	99.9	81	100.0	99.4
PHYSICIAN NOT IN HOSPITAL	1	0.5	0.2	1	0.8	0.1	0	0.0	0.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	12	5.8	7.2	8	6.3	5.4	4	4.9	11.1
6. OUT OF WEDLOCK	78	37.7	28.5	34	27.0	16.7	44	54.3	55.2
7. OCCURRENCE									
TOTAL	884	0.9	0.9	184	0.3	0.4	700	2.2	2.0
TO RESIDENTS	151	17.1	18.7	80	43.5	43.1	71	10.1	9.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	14.3	19.5	1	7.9	16.1	2	24.1	27.3
9. FETAL DEATHS	3	14.3	13.0	1	7.9	10.7	2	24.1	18.2
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	100.0	100.0	1	100.0	100.0	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	1	33.3	21.4	0	0.0	0.0	1	50.0	50.0
10. NEONATAL (UNDER 28 DAYS)	0	0.0	6.6	0	0.0	5.4	0	0.0	9.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	9.7	2.8	2	15.9	4.1	0	0.0	0.0
12. INFANT DEATHS (UNDER 1 YEAR)	2	9.7	9.4	2	15.9	9.5	0	0.0	9.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	192			163			29		
MALES	99			81			18		
FEMALES	93			82			11		
14. AGE									
00-04 YEARS	4			3			1		
05-14 YEARS	1			1			0		
15-24 YEARS	3			1			2		
25-34 YEARS	3			3			0		
35-44 YEARS	10			6			4		
45-54 YEARS	9			5			4		
55-64 YEARS	23			20			3		
65 AND OVER	139			124			15		
15. PLACE OF DEATH									
HOSPITAL	166	86.5	78.8	139	85.3	77.7	27	93.1	85.2
OTHER INSTITUTION	17	8.9	12.3	16	9.8	12.8	1	3.4	9.0
HOME OR NON-INSTITUTION	9	4.7	8.9	8	4.9	9.4	1	3.4	5.7
16. OCCURRENCE									
TOTAL	481	0.8	0.8	251	0.6	0.6	230	1.6	1.6
TO RESIDENTS	144	29.9	30.2	121	48.2	48.1	23	10.0	9.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

ROCKY MOUNT

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	362			67			295		
LIVE BIRTHS									
3. TOTAL	876			343			533		
MALES	439			173			266		
FEMALES	437			170			267		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	870	99.3	99.6	343	100.0	99.7	527	98.9	99.5
PHYSICIAN NOT IN HOSPITAL	4	0.5	0.2	0	0.0	0.0	4	0.8	0.4
#CERTIFIED NURSE MIDWIFE	1	0.1	0.1	0	0.0	0.3	1	0.2	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	88	10.0	9.9	25	7.3	5.7	63	11.8	12.8
6. OUT OF WEDLOCK	367	41.9	39.9	43	12.5	9.5	324	60.8	60.5
7. OCCURRENCE									
TOTAL	1392	1.4	1.4	781	1.2	1.1	611	1.9	2.0
TO RESIDENTS	514	36.9	31.9	282	36.1	31.9	232	38.0	32.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	10	11.3	16.1	5	14.4	13.2	5	9.3	18.0
9. FETAL DEATHS	6	6.8	8.9	4	11.5	10.7	2	3.7	7.7
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	94.3	4	100.0	88.2	2	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	50.0	37.1	1	25.0	11.8	2	100.0	61.1
10. NEONATAL (UNDER 28 DAYS)	4	4.6	7.2	1	2.9	2.5	3	5.6	10.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	1.1	3.9	0	0.0	3.2	1	1.9	4.4
12. INFANT DEATHS (UNDER 1 YEAR)	5	5.7	11.1	1	2.9	5.7	4	7.5	14.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	514			276			238		
MALES	250			122			128		
FEMALES	264			154			110		
14. AGE									
00-04 YEARS	7			1			6		
05-14 YEARS	4			0			4		
15-24 YEARS	4			0			4		
25-34 YEARS	18			6			12		
35-44 YEARS	28			6			22		
45-54 YEARS	37			12			25		
55-64 YEARS	66			33			33		
65 AND OVER	350			218			132		
15. PLACE OF DEATH									
HOSPITAL	342	66.5	64.0	180	65.2	62.0	162	68.1	66.4
OTHER INSTITUTION	70	13.6	14.8	42	15.2	17.7	28	11.8	11.4
HOME OR NON-INSTITUTION	102	19.8	21.2	54	19.6	20.4	48	20.2	22.1
16. OCCURRENCE									
TOTAL	745	1.3	1.2	415	0.9	0.9	330	2.3	2.1
TO RESIDENTS	292	39.2	43.7	187	45.1	47.7	105	31.8	38.3

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SALISBURY

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	-106			-172			66		
LIVE BIRTHS									
3. TOTAL	306			133			173		
MALES	154			66			88		
FEMALES	152			67			85		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	304	99.3	98.6	132	99.2	98.3	172	99.4	98.7
PHYSICIAN NOT IN HOSPITAL	1	0.3	0.3	0	0.0	0.0	1	0.6	0.6
#CERTIFIED NURSE MIDWIFE	1	0.3	0.8	1	0.8	1.5	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	28	9.2	9.5	9	6.8	6.3	19	11.0	12.3
6. OUT OF WEDLOCK	138	45.1	39.6	16	12.0	9.6	122	70.5	64.4
7. OCCURRENCE									
TOTAL	1121	1.1	1.1	831	1.3	1.3	290	0.9	0.9
TO RESIDENTS	257	22.9	25.3	111	13.4	15.6	146	50.3	54.4
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	22.7	19.3	3	22.6	12.4	4	22.9	24.9
9. FETAL DEATHS	2	6.5	10.6	0	0.0	6.9	2	11.4	13.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	2	100.0	94.1	0		100.0	2	100.0	91.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	5.9	0		0.0	0	0.0	8.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	2	100.0	64.7	0		40.0	2	100.0	75.0
10. NEONATAL (UNDER 28 DAYS)	5	16.3	8.8	3	22.6	5.6	2	11.6	11.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	4	13.3	8.2	2	15.4	7.0	2	11.7	9.3
12. INFANT DEATHS (UNDER 1 YEAR)	9	29.4	17.0	5	37.6	12.5	4	23.1	20.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	412			305			107		
MALES	226			161			65		
FEMALES	186			144			42		
14. AGE									
00-04 YEARS	9			5			4		
05-14 YEARS	1			0			1		
15-24 YEARS	1			0			1		
25-34 YEARS	4			3			1		
35-44 YEARS	13			3			10		
45-54 YEARS	21			15			6		
55-64 YEARS	44			26			18		
65 AND OVER	319			253			66		
15. PLACE OF DEATH									
HOSPITAL	201	48.8	51.5	140	45.9	49.7	61	57.0	56.5
OTHER INSTITUTION	148	35.9	33.1	127	41.6	36.0	21	19.6	24.7
HOME OR NON-INSTITUTION	63	15.3	15.4	38	12.5	14.2	25	23.4	18.8
16. OCCURRENCE									
TOTAL	966	1.7	1.7	776	1.8	1.8	190	1.3	1.4
TO RESIDENTS	362	37.5	34.4	271	34.9	31.9	91	47.9	44.2

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SANFORD

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	130			33			97		
LIVE BIRTHS									
3. TOTAL	286			135			151		
MALES	137			69			68		
FEMALES	149			66			83		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	283	99.0	98.8	134	99.3	98.7	149	98.7	99.0
PHYSICIAN NOT IN HOSPITAL	1	0.3	0.2	0	0.0	0.0	1	0.7	0.5
#CERTIFIED NURSE MIDWIFE	2	0.7	0.9	1	0.7	1.3	1	0.7	0.5
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	34	11.9	9.1	10	7.4	5.4	24	15.9	13.5
6. OUT OF WEDLOCK	111	38.8	36.7	19	14.1	15.7	92	60.9	61.8
7. OCCURRENCE									
TOTAL	803	0.8	0.8	558	0.8	0.8	245	0.8	0.7
TO RESIDENTS	157	19.6	23.1	75	13.4	18.6	82	33.5	34.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	3	10.5	17.2	2	14.8	15.9	1	6.6	18.8
9. FETAL DEATHS	0	0.0	8.6	0	0.0	5.3	0	0.0	12.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	0		100.0	0		100.0	0		100.0
PHYSICIAN NOT IN HOSPITAL	0		0.0	0		0.0	0		0.0
#CERTIFIED NURSE MIDWIFE	0		0.0	0		0.0	0		0.0
PERMITTED MIDWIFE	0		0.0	0		0.0	0		0.0
OUT OF WEDLOCK	0		75.0	0		50.0	0		87.5
10. NEONATAL (UNDER 28 DAYS)	3	10.5	8.7	2	14.8	10.6	1	6.6	6.3
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.6	0	0.0	1.3	0	0.0	6.4
12. INFANT DEATHS (UNDER 1 YEAR)	3	10.5	12.3	2	14.8	12.0	1	6.6	12.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	156			102			54		
MALES	85			57			28		
FEMALES	71			45			26		
14. AGE									
00-04 YEARS	4			2			2		
05-14 YEARS	0			0			0		
15-24 YEARS	1			1			0		
25-34 YEARS	4			0			4		
35-44 YEARS	7			0			7		
45-54 YEARS	8			4			4		
55-64 YEARS	32			21			11		
65 AND OVER	100			74			26		
15. PLACE OF DEATH									
HOSPITAL	99	63.5	62.7	69	67.6	63.7	30	55.6	60.6
OTHER INSTITUTION	17	10.9	15.9	10	9.8	15.7	7	13.0	16.4
HOME OR NON-INSTITUTION	40	25.6	21.4	23	22.5	20.6	17	31.5	23.0
16. OCCURRENCE									
TOTAL	267	0.5	0.4	193	0.4	0.4	74	0.5	0.5
TO RESIDENTS	97	36.3	42.5	67	34.7	38.7	30	40.5	52.9

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

SHELBY

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	52			-74			126		
LIVE BIRTHS									
3. TOTAL	308			112			196		
MALES	176			70			106		
FEMALES	132			42			90		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	308	100.0	100.0	112	100.0	100.0	196	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	32	10.4	10.9	4	3.6	6.5	28	14.3	14.0
6. OUT OF WEDLOCK	160	51.9	47.8	22	19.6	14.0	138	70.4	72.6
7. OCCURRENCE									
TOTAL	1169	1.2	1.2	792	1.2	1.3	377	1.2	1.1
TO RESIDENTS	280	24.0	20.9	98	12.4	11.9	182	48.3	43.9
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	22.3	20.6	4	34.8	16.2	3	15.1	23.8
9. FETAL DEATHS	6	19.1	9.9	3	26.1	9.0	3	15.1	10.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	6	100.0	100.0	3	100.0	100.0	3	100.0	100.0
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	50.0	46.2	0	0.0	0.0	3	100.0	75.0
10. NEONATAL (UNDER 28 DAYS)	1	3.2	10.8	1	8.9	7.3	0	0.0	13.4
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	6.5	7.8	0	0.0	5.5	2	10.2	9.5
12. INFANT DEATHS (UNDER 1 YEAR)	3	9.7	18.5	1	8.9	12.7	2	10.2	22.7
DEATHS (EXCLUDING FETALS)									
13. TOTAL	256			186			70		
MALES	125			90			35		
FEMALES	131			96			35		
14. AGE									
00-04 YEARS	6			1			5		
05-14 YEARS	0			0			0		
15-24 YEARS	1			0			1		
25-34 YEARS	7			3			4		
35-44 YEARS	17			5			12		
45-54 YEARS	10			8			2		
55-64 YEARS	20			10			10		
65 AND OVER	195			159			36		
15. PLACE OF DEATH									
HOSPITAL	150	58.6	61.7	108	58.1	59.0	42	60.0	68.7
OTHER INSTITUTION	52	20.3	20.4	45	24.2	24.0	7	10.0	11.0
HOME OR NON-INSTITUTION	54	21.1	17.9	33	17.7	17.0	21	30.0	20.4
16. OCCURRENCE									
TOTAL	511	0.9	0.9	413	0.9	1.0	98	0.7	0.7
TO RESIDENTS	207	40.5	36.9	152	36.8	33.4	55	56.1	51.3

* SEE DEFINITIONS AND FORMULAS (SECTION VII)

# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

STATESVILLE

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	58			-41			99		
LIVE BIRTHS									
3. TOTAL	293			128			165		
MALES	150			64			86		
FEMALES	143			64			79		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	291	99.3	99.6	128	100.0	100.0	163	98.8	99.3
PHYSICIAN NOT IN HOSPITAL	1	0.3	0.1	0	0.0	0.0	1	0.6	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	28	9.6	10.2	8	6.3	7.0	20	12.1	13.1
6. OUT OF WEDLOCK	133	45.4	44.1	22	17.2	15.0	111	67.3	70.1
7. OCCURRENCE									
TOTAL	831	0.8	0.8	586	0.9	0.9	245	0.8	0.7
TO RESIDENTS	221	26.6	25.3	87	14.8	15.3	134	54.7	51.1
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	6	20.2	22.1	3	23.3	18.8	3	17.9	25.0
9. FETAL DEATHS	4	13.5	13.2	1	7.8	9.4	3	17.9	16.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	75.0	94.4	1	100.0	100.0	2	66.7	91.7
PHYSICIAN NOT IN HOSPITAL	1	25.0	5.6	0	0.0	0.0	1	33.3	8.3
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	75.0	61.1	1	100.0	16.7	2	66.7	83.3
10. NEONATAL (UNDER 28 DAYS)	2	6.8	8.9	2	15.6	9.5	0	0.0	8.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	5	17.2	7.5	0	0.0	4.8	5	30.3	10.0
12. INFANT DEATHS (UNDER 1 YEAR)	7	23.9	16.4	2	15.6	14.2	5	30.3	18.3
DEATHS (EXCLUDING FETALS)									
13. TOTAL	235			169			66		
MALES	114			77			37		
FEMALES	121			92			29		
14. AGE									
00-04 YEARS	8			2			6		
05-14 YEARS	0			0			0		
15-24 YEARS	5			3			2		
25-34 YEARS	3			0			3		
35-44 YEARS	4			4			0		
45-54 YEARS	11			6			5		
55-64 YEARS	21			13			8		
65 AND OVER	183			141			42		
15. PLACE OF DEATH									
HOSPITAL	158	67.2	71.1	116	68.6	69.1	42	63.6	77.3
OTHER INSTITUTION	37	15.7	14.3	28	16.6	16.5	9	13.6	8.0
HOME OR NON-INSTITUTION	40	17.0	14.5	25	14.8	14.4	15	22.7	14.7
16. OCCURRENCE									
TOTAL	369	0.6	0.7	293	0.7	0.7	76	0.5	0.5
TO RESIDENTS	164	44.4	42.9	113	38.6	39.0	51	67.1	60.7

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

THOMASVILLE

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	25			-5			30		
LIVE BIRTHS									
3. TOTAL	234			161			73		
MALES	131			90			41		
FEMALES	103			71			32		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	232	99.1	98.3	159	98.8	97.6	73	100.0	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	2	0.9	1.7	2	1.2	2.4	0	0.0	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	13	5.6	7.9	8	5.0	6.6	5	6.8	10.4
6. OUT OF WEDLOCK	82	35.0	36.7	35	21.7	23.0	47	64.4	62.1
7. OCCURRENCE									
TOTAL	548	0.6	0.5	469	0.7	0.7	79	0.2	0.3
TO RESIDENTS	143	26.1	28.5	87	18.6	19.4	56	70.9	79.6
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	5	21.0	19.8	2	12.3	18.6	3	39.5	21.8
9. FETAL DEATHS	4	16.8	12.0	1	6.2	8.0	3	39.5	19.4
ATTENDANT									
PHYSICIAN IN HOSPITAL	3	75.0	92.9	1	100.0	100.0	2	66.7	87.5
PHYSICIAN NOT IN HOSPITAL	1	25.0	7.1	0	0.0	0.0	1	33.3	12.5
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	3	75.0	64.3	0	0.0	33.3	3	100.0	87.5
10. NEONATAL (UNDER 28 DAYS)	1	4.3	7.8	1	6.2	10.7	0	0.0	2.5
11. POSTNEONATAL (28 DAYS - 1 YEAR)	1	4.3	3.5	1	6.2	2.7	0	0.0	5.0
12. INFANT DEATHS (UNDER 1 YEAR)	2	8.5	11.3	2	12.4	13.4	0	0.0	7.4
DEATHS (EXCLUDING FETALS)									
13. TOTAL	209			166			43		
MALES	103			84			19		
FEMALES	106			82			24		
14. AGE									
00-04 YEARS	2			2			0		
05-14 YEARS	3			1			2		
15-24 YEARS	5			1			4		
25-34 YEARS	5			1			4		
35-44 YEARS	8			2			6		
45-54 YEARS	10			5			5		
55-64 YEARS	28			24			4		
65 AND OVER	148			130			18		
15. PLACE OF DEATH									
HOSPITAL	131	62.7	60.1	97	58.4	58.3	34	79.1	66.4
OTHER INSTITUTION	52	24.9	25.3	48	28.9	27.7	4	9.3	16.6
HOME OR NON-INSTITUTION	26	12.4	14.7	21	12.7	14.0	5	11.6	17.0
16. OCCURRENCE									
TOTAL	308	0.5	0.5	267	0.6	0.6	41	0.3	0.3
TO RESIDENTS	162	52.6	51.5	130	48.7	46.8	32	78.0	81.7

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WILMINGTON

ITEM	TOTAL NUMBER 1988	TOTAL RATE* 1988	TOTAL RATE* 84-88	WHITE NUMBER 1988	WHITE RATE* 1988	WHITE RATE* 84-88	NONWHITE NUMBER 1988	NONWHITE RATE* 1988	NONWHITE RATE* 84-88
POPULATION									
	POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)								
2. NATURAL INCREASE	251			-10			261		
LIVE BIRTHS									
3. TOTAL	866			406			460		
MALES	423			206			217		
FEMALES	443			200			243		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	865	99.9	99.8	406	100.0	99.8	459	99.8	99.8
PHYSICIAN NOT IN HOSPITAL	1	0.1	0.0	0	0.0	0.0	1	0.2	0.1
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.1	0	0.0	0.0
5. PREMATURE BIRTHS	86	9.9	9.9	22	5.4	6.5	64	13.9	13.4
6. OUT OF WEDLOCK	388	44.8	40.9	63	15.5	14.3	325	70.7	67.5
7. OCCURRENCE									
TOTAL	2714	2.8	2.8	1819	2.7	2.7	895	2.8	2.9
TO RESIDENTS	854	31.5	29.9	397	21.8	22.0	457	51.1	46.0
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	12	13.8	18.0	2	4.9	10.7	10	21.6	25.2
9. FETAL DEATHS	4	4.6	9.1	0	0.0	3.6	4	8.6	14.6
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	100.0	97.2	0		100.0	4	100.0	96.6
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0		0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0		0.0	0	0.0	0.0
OUT OF WEDLOCK	2	50.0	52.8	0		14.3	2	50.0	62.1
10. NEONATAL (UNDER 28 DAYS)	8	9.2	9.0	2	4.9	7.2	6	13.0	10.7
11. POSTNEONATAL (28 DAYS - 1 YEAR)	2	2.3	3.9	1	2.5	3.6	1	2.2	4.1
12. INFANT DEATHS (UNDER 1 YEAR)	10	11.5	12.8	3	7.4	10.8	7	15.2	14.8
DEATHS (EXCLUDING FETALS)									
13. TOTAL	615			416			199		
MALES	322			212			110		
FEMALES	293			204			89		
14. AGE									
00-04 YEARS	11			3			8		
05-14 YEARS	3			0			3		
15-24 YEARS	8			6			2		
25-34 YEARS	12			7			5		
35-44 YEARS	24			8			16		
45-54 YEARS	42			24			18		
55-64 YEARS	80			48			32		
65 AND OVER	435			320			115		
15. PLACE OF DEATH									
HOSPITAL	386	62.8	63.6	251	60.3	61.8	135	67.8	67.1
OTHER INSTITUTION	79	12.8	15.7	62	14.9	17.5	17	8.5	11.9
HOME OR NON-INSTITUTION	150	24.4	20.8	103	24.8	20.7	47	23.6	21.0
16. OCCURRENCE									
TOTAL	1171	2.0	2.0	843	1.9	1.9	328	2.3	2.3
TO RESIDENTS	536	45.8	49.1	359	42.6	45.6	177	54.0	58.0

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WILSON

	TOTAL			WHITE			NONWHITE		
ITEM	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
				POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)					
2. NATURAL INCREASE	121			-33			154		
LIVE BIRTHS									
3. TOTAL	563			217			346		
MALES	275			110			165		
FEMALES	288			107			181		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	562	99.8	99.6	216	99.5	99.5	346	100.0	99.7
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.1	0	0.0	0.0	0	0.0	0.1
#CERTIFIED NURSE MIDWIFE	1	0.2	0.2	1	0.5	0.3	0	0.0	0.1
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	50	8.9	10.0	16	7.4	7.1	34	9.8	11.8
6. OUT OF WEDLOCK	248	44.0	43.6	17	7.8	8.3	231	66.8	65.4
7. OCCURRENCE									
TOTAL	1138	1.2	1.2	631	1.0	1.0	507	1.6	1.7
TO RESIDENTS	527	46.3	43.5	192	30.4	29.4	335	66.1	60.7
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	7	12.3	16.0	3	13.7	17.0	4	11.5	15.4
9. FETAL DEATHS	5	8.8	9.5	2	9.1	10.0	3	8.6	9.3
ATTENDANT									
PHYSICIAN IN HOSPITAL	4	80.0	96.0	2	100.0	100.0	2	66.7	93.3
PHYSICIAN NOT IN HOSPITAL	1	20.0	4.0	0	0.0	0.0	1	33.3	6.7
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	2	40.0	52.0	0	0.0	20.0	2	66.7	73.3
10. NEONATAL (UNDER 28 DAYS)	2	3.6	6.6	1	4.6	7.1	1	2.9	6.2
11. POSTNEONATAL (28 DAYS - 1 YEAR)	0	0.0	3.5	0	0.0	2.0	0	0.0	4.4
12. INFANT DEATHS (UNDER 1 YEAR)	2	3.6	10.0	1	4.6	9.1	1	2.9	10.6
DEATHS (EXCLUDING FETALS)									
13. TOTAL	442			250			192		
MALES	195			104			91		
FEMALES	247			146			101		
14. AGE									
00-04 YEARS	4			1			3		
05-14 YEARS	0			0			0		
15-24 YEARS	6			1			5		
25-34 YEARS	12			2			10		
35-44 YEARS	16			6			10		
45-54 YEARS	24			14			10		
55-64 YEARS	59			34			25		
65 AND OVER	321			192			129		
15. PLACE OF DEATH									
HOSPITAL	273	61.8	63.8	152	60.8	62.3	121	63.0	65.8
OTHER INSTITUTION	94	21.3	19.6	65	26.0	22.8	29	15.1	15.4
HOME OR NON-INSTITUTION	75	17.0	16.6	33	13.2	14.9	42	21.9	18.8
16. OCCURRENCE									
TOTAL	746	1.3	1.3	471	1.1	1.1	275	1.9	1.8
TO RESIDENTS	394	52.8	49.1	226	48.0	42.9	168	61.1	60.9

* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

SELECTED VITAL STATISTICS FOR 1988 AND 1984-1988

WINSTON SALEM

ITEM	TOTAL			WHITE			NONWHITE		
	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88	NUMBER 1988	RATE* 1988	RATE* 84-88
POPULATION									
POPULATION NOT AVAILABLE FOR CITIES (SEE SECTION VI)									
2. NATURAL INCREASE	791			160			631		
LIVE BIRTHS									
3. TOTAL	2348			1106			1242		
MALES	1208			564			644		
FEMALES	1140			542			598		
4. ATTENDANT									
PHYSICIAN IN HOSPITAL	2325	99.0	99.0	1087	98.3	98.1	1238	99.7	99.8
PHYSICIAN NOT IN HOSPITAL	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
#CERTIFIED NURSE MIDWIFE	23	1.0	1.0	19	1.7	1.8	4	0.3	0.2
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
5. PREMATURE BIRTHS	246	10.5	10.2	77	7.0	6.1	169	13.6	14.2
6. OUT OF WEDLOCK	944	40.2	37.1	131	11.8	10.0	813	65.5	63.6
7. OCCURRENCE									
TOTAL	5351	5.5	5.5	3807	5.8	5.8	1544	4.9	4.7
TO RESIDENTS	2283	42.7	41.8	1056	27.7	28.0	1227	79.5	79.2
FETAL & INFANT MORTALITY									
8. PERINATAL DEATHS	45	19.0	16.5	18	16.1	10.5	27	21.5	22.5
9. FETAL DEATHS	21	8.9	6.9	9	8.1	4.3	12	9.6	9.5
ATTENDANT									
PHYSICIAN IN HOSPITAL	19	90.5	97.3	9	100.0	100.0	10	83.3	96.2
PHYSICIAN NOT IN HOSPITAL	1	4.8	1.3	0	0.0	0.0	1	8.3	1.9
#CERTIFIED NURSE MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
PERMITTED MIDWIFE	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
OUT OF WEDLOCK	11	52.4	53.3	1	11.1	8.7	10	83.3	73.1
10. NEONATAL (UNDER 28 DAYS)	24	10.2	9.7	9	8.1	6.2	15	12.1	13.1
11. POSTNEONATAL (28 DAYS - 1 YEAR)	15	6.5	4.7	3	2.7	2.3	12	9.8	7.1
12. INFANT DEATHS (UNDER 1 YEAR)	39	16.6	14.3	12	10.8	8.5	27	21.7	20.1
DEATHS (EXCLUDING FETALS)									
13. TOTAL	1557			946			611		
MALES	778			451			327		
FEMALES	779			495			284		
14. AGE									
00-04 YEARS	41			13			28		
05-14 YEARS	2			1			1		
15-24 YEARS	16			5			11		
25-34 YEARS	43			20			23		
35-44 YEARS	74			33			41		
45-54 YEARS	87			42			45		
55-64 YEARS	211			118			93		
65 AND OVER	1083			714			369		
15. PLACE OF DEATH									
HOSPITAL	989	63.5	66.2	587	62.1	62.6	402	65.8	71.9
OTHER INSTITUTION	235	15.1	15.0	172	18.2	18.1	63	10.3	10.1
HOME OR NON-INSTITUTION	333	21.4	18.8	187	19.8	19.3	146	23.9	18.1
16. OCCURRENCE									
TOTAL	3273	5.6	5.6	2525	5.8	5.7	748	5.3	5.3
TO RESIDENTS	1441	44.0	44.8	870	34.5	35.2	571	76.3	77.4

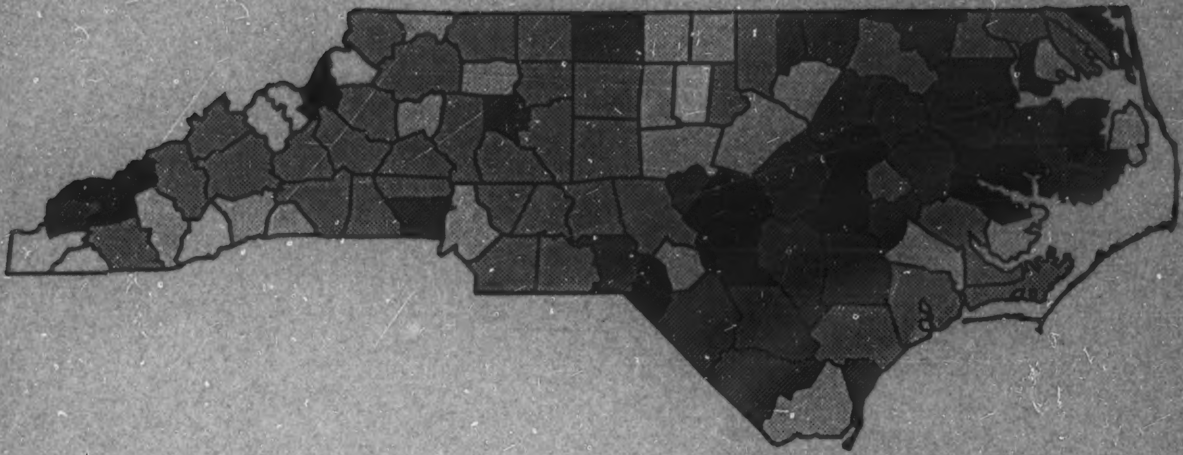
* SEE DEFINITIONS AND FORMULAS (SECTION VII)
# ITEM ADDED 1980

Department of Environment, Health, and Natural Resources
Division of Statistics and Information Services
P.O. Box 27687
Raleigh, N.C. 27611-7687
919/733-4728

BULK RATE
U.S. Postage
PAID
Raleigh, N.C. 27611-7687
Permit No. 1862

S5927-1.2-U

LEADING CAUSES OF MORTALITY



North Carolina
Vital Statistics
1988—Volume 2

LEADING CAUSES OF MORTALITY

North Carolina
Vital Statistics
1988—Volume 2

Center for Health and Environmental Statistics
N.C. Department of Environment, Health, and Natural Resources
Division of Statistics and Information Services

STATE OF NORTH CAROLINA
James G. Martin, Governor

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
William W. Cobey, Jr., Secretary

DIVISION OF STATISTICS AND INFORMATION SERVICES
Delton Atkinson, M.S.P.H., M.P.H., Director

June 1990

800 copies of this public document were
printed at a cost of $3,310.44 or $4.14 per copy.

TABLE OF CONTENTS

Page

PREFACE vii

I. INTRODUCTION 1-1

Purpose and Organization 1-3

Overview of Mortality in North Carolina 1-9

II. TECHNICAL NOTES 2-1
North Carolina Population Bases 2-3
Mortality Rates 2-4
Computation of Mortality Rates 2-4
Interpretation of Mortality Rates 2-6
Flagging Biased Rates 2-9
Procedure for Geographic Clustering of Counties 2-12

III. GENERAL MORTALITY IN NORTH CAROLINA 3-1

IV. MAJOR CARDIOVASCULAR DISEASE MORTALITY 4-1
Heart Disease 4-3
Cerebrovascular Disease 4-9
Atherosclerosis 4-15

Page

V. CANCER MORTALITY 5-1

Cancer 5-3

Cancer of the Colon, Rectum, and Anus 5-13

Cancer of the Trachea, Bronchus, and Lung 5-19

Cancer of the Female Breast 5-25

Cancer of the Prostate 5-31

Cancer in Special Populations 5-37

VI. OTHER LEADING CAUSES OF MORTALITY 6-1

Septicemia 6-3

Diabetes Mellitus 6-8

Pneumonia and Influenza 6-13

Chronic Obstructive Pulmonary Disease 6-19

Chronic Liver Disease and Cirrhosis 6-26

Nephritis, Nephrosis, and Nephrotic Syndrome 6-31

VII. MAJOR EXTERNAL CAUSES OF MORTALITY 7-1

Injuries 7-3

- Unintended Motor Vehicle Injuries 7-5
- Unintended Injuries Excluding Motor Vehicles . . .7-12

Suicide 7-20

Homicide 7-27

VIII. INFANT MORTALITY 8-1

IX. MULTIPLE CONDITIONS PRESENT AT DEATH 9-1

NORTH CAROLINA

Department of Human Resources Regions

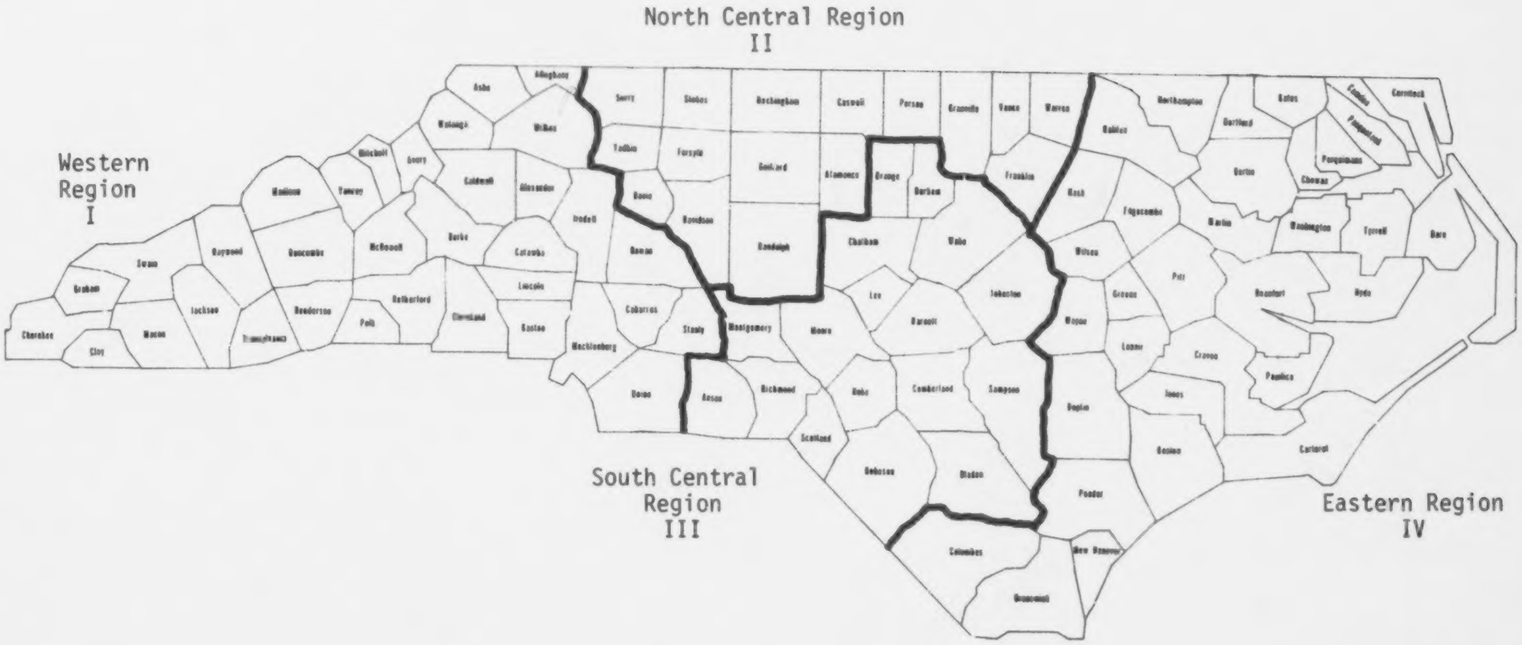

North Central Region
II
Western Region
I
South Central Region
III
Eastern Region
IV
Cherokee
Clay
Graham
Swain
Macon
Haywood
Jackson
Madison
Buncombe
Transylvania
Henderson
Yancey
Mitchell
Avery
McDowell
Polk
Rutherford
Watauga
Ashe
Alleghany
Wilkes
Caldwell
Burke
Alexander
Catawba
Cleveland
Lincoln
Gaston
Iredell
Mecklenburg
Surry
Yadkin
Davie
Rowan
Cabarrus
Stanly
Union
Anson
Stokes
Forsyth
Davidson
Montgomery
Rockingham
Guilford
Randolph
Caswell
Alamance
Person
Orange
Durham
Chatham
Granville
Vance
Warren
Franklin
Wake
Lee
Moore
Richmond
Scotland
Harnett
Hoke
Cumberland
Robeson
Johnston
Sampson
Bladen
Columbus
Brunswick
New Hanover
Pender
Duplin
Wayne
Wilson
Nash
Halifax
Northampton
Edgecombe
Greene
Lenoir
Pitt
Jones
Onslow
Craven
Carteret
Pamlico
Beaufort
Martin
Bertie
Hertford
Gates
Chowan
Perquimans
Pasquotank
Camden
Currituck
Washington
Tyrrell
Hyde
Dare

FIGURE 1.A.

NORTH CAROLINA

Health Service Areas

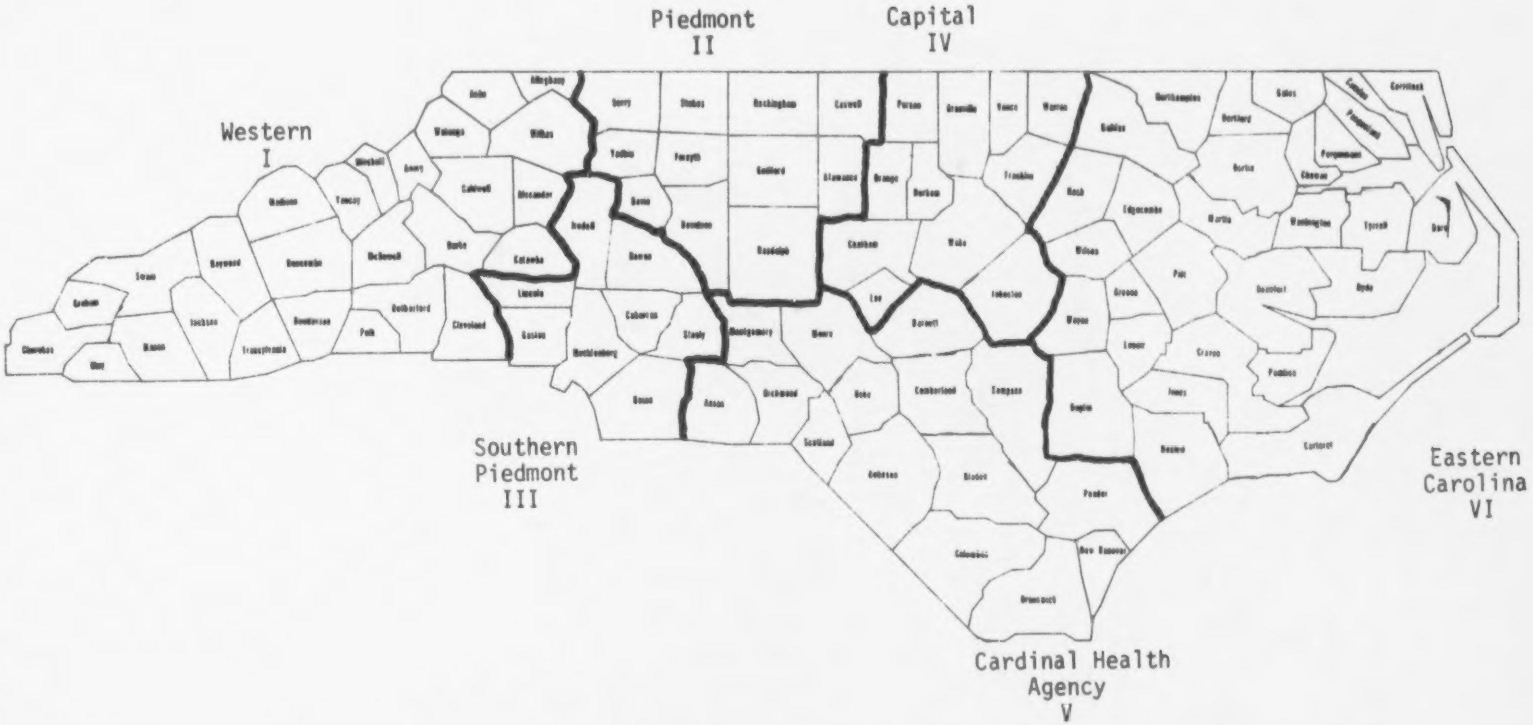

Piedmont
II
Capital
IV
Western
I
Southern
Piedmont
III
Cardinal Health
Agency
V
Eastern
Carolina
VI
Ashe
Alleghany
Surry
Stokes
Rockingham
Caswell
Person
Granville
Vance
Warren
Halifax
Northampton
Hertford
Gates
Camden
Currituck
Pasquotank
Perquimans
Chowan
Bertie
Watauga
Wilkes
Yadkin
Forsyth
Guilford
Alamance
Orange
Durham
Franklin
Nash
Edgecombe
Martin
Washington
Tyrrell
Dare
Mitchell
Avery
Caldwell
Alexander
Iredell
Davie
Davidson
Randolph
Chatham
Wake
Wilson
Pitt
Beaufort
Hyde
Madison
Yancey
Burke
Catawba
Rowan
McDowell
Buncombe
Haywood
Swain
Graham
Cherokee
Clay
Macon
Jackson
Transylvania
Henderson
Polk
Rutherford
Cleveland
Lincoln
Gaston
Mecklenburg
Cabarrus
Stanly
Union
Anson
Montgomery
Moore
Lee
Harnett
Johnston
Wayne
Greene
Lenoir
Craven
Pamlico
Richmond
Scotland
Hoke
Cumberland
Sampson
Duplin
Jones
Onslow
Carteret
Robeson
Bladen
Pender
New Hanover
Columbus
Brunswick

FIGURE 1.B.

PREFACE

The Center for Health and Environmental Statistics produces a major publication annually, describing in tabular and map form North Carolina's mortality experience over the most recent five-year period. Periodically, an expanded volume is produced that includes a narrative analysis for each cause of death. The expanded format is resumed in this 1988 edition, which includes statistical tables, maps, and graphs, as well as discussions of cause-specific trends, geographic patterns, risk factors, multiple conditions present at death, and pertinent research. An overview of the mortality experience in North Carolina is also presented.

The tables in this report provide selected 1988 mortality statistics for counties, Department of Human Resources regions, Health Service Areas, and the state (see maps on preceding pages). More than a dozen of the leading causes of mortality in North Carolina are tabulated; in addition, various cancer sites and total infant mortality are included. Comparisons with national statistics are usually based on 1987 data, which is the most recent year of final data available from the National Center for Health Statistics.

As with previous editions, multiple conditions present at death are discussed in a separate section. Five diseases in particular--septicemia, diabetes, hypertension, atherosclerosis, and nephritis/nephrosis--are considered associated conditions far more often than underlying causes. Hence, Figures 18.A through 22.B display 1984-88 county rates for deaths associated with a mention of each of these diseases, and rates corresponding to these diseases as underlying causes (except hypertension) are tabulated but not mapped in this volume.

A separate technical notes section describes mortality rates and population bases, and explains statistical procedures used for flagging biased rates and for geographic clustering of counties. The reader is urged to consult this section prior to utilization of the statistical analyses in this volume.

If there are any questions concerning this publication, please contact:

Ken Kaufman
Division of Statistics and Information Services
Department of Environment, Health, and Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687
(919) 733-4728

I. INTRODUCTION

PURPOSE AND ORGANIZATION

Although North Carolina has traditionally experienced low crude death rates, our status among states has worsened. In 1960, only seven of the 50 states had death rates lower than North Carolina's; this had increased to 14 by 1970 (1); 19 by 1980 (2); and 21 by 1987 (3). Furthermore, while many of the state's cause-specific rates are consistently below United States levels, some of North Carolina's age-adjusted rates are substantially higher. For example, cerebrovascular disease, motor vehicle injuries, other injuries, and septicemia are causes for which North Carolina's 1987 adjusted rates were 23 to 35 percent above the corresponding United States rates. For all causes, the 1987 North Carolina unadjusted rate was less than one percent lower than the United States rate, while the age-adjusted rate was six percent greater. Finally, four years of successive decreases in the infant death rate for North Carolina ended in 1987 with a 4.3% increase over 1986, followed by an increase of 4.1% in 1988.

These facts pose a serious challenge to health officials throughout the state to (i) isolate those determinants of mortality that permit intervention, and (ii) identify high-risk areas in order to strategically utilize limited medical and health resources. The data in this volume should aid in these areas of investigation by providing information against which North Carolina's county and regional mortality may be assessed in the present and evaluated in the future.

Nine sections comprise this edition of Leading Causes of Mortality. This section presents an overview of mortality experience in North Carolina as well as the purpose and organization of the document. Section II provides technical information concerning the calculation, interpretation, and appropriate use of adjusted and unadjusted rates. As in past editions of this volume, readers are cautioned about using rates based on a small number of deaths, and the most problematic of the adjusted rates are "flagged" in the tables with an asterisk. The procedures used to determine which rates to flag are described in Section II. Also, the procedure used to analyze geographic clustering of counties is described.

Sections III through IX consist of maps, tabular data, and narrative material which describe North Carolina's recent experience with respect to general mortality, cause-specific mortality (underlying cause), infant mortality, and multiple conditions present at death. For most causes, risk factors, geographic clustering, differences by race and sex, and trends over time are considered.

Table 1 describes the selected cause-of-death categories in terms of codes from the ninth revision of the International Classification of Diseases (4). Altogether, the 14 major causes selected for examination in this report accounted for 85 percent of all North Carolina deaths during 1988. Some of the cancer sites listed in Table 1 are not discussed separately in this report. However, the considerable interest in cancer justified presentation of rates for these sites.

DESCRIPTION OF TABLES

Sections III-IX contain tables that summarize the recent mortality experience of the state, four Department of Human Resources regions, six Health Service Areas, and the counties. Except in the case of infant deaths (Section VIII), a table corresponding to each cause-of-death category includes the following items of information:

1. the number of resident deaths occurring during 1988;
2. the 1988 death rate;
3. the number of resident deaths occurring during 1984-88;
4. the 1984-88 average annual death rate;
5. the 1984-88 average annual age-race-sex-adjusted death rate computed by the direct method (5).

The formulas for calculating single- and five-year rates are described in Section II. In this report, general mortality rates (all causes combined) are expressed as deaths per 1,000 population, whereas cause-specific rates are expressed as deaths per 100,000 population. The infant death rates of Table 21, Section VIII, are computed as the number of infant deaths per 1,000 live births.

DESCRIPTION OF MAPS

This volume contains 64 computer-produced maps which depict data for the state's 100 counties. The maps on pages v and vi identify the four regions of the Department of Human Resources (DHR) and the state's six Health Service Areas (HSA's).

In Sections III-IX, maps depicting geographical patterns in mortality should aid in the determination of specific types of health care needs. Up to four maps are shown for each cause-of-death category. Two maps depict the 1984-88 unadjusted death rate and the 1984-88 age-race-sex-adjusted death rate for each of the 100 counties. These maps show six levels of death rates, where level one is the highest rate interval, represented by solid black on the maps, and level six the lowest, depicted by solid white. The interval values (levels) indicated by the map legends are not necessarily continuous, but reflect the actual range of values for each interval. These maps must be viewed with extreme caution for causes where the number of deaths per county is small, since in these cases rates can be very unstable.

A clustering routine from the Statistical Analysis System (SAS) was used to group counties that are "most like each other" with respect to their unadjusted and then their adjusted rates (6). This procedure may result in very large or very small groups, depending upon how county rates differ from one another.

The other two maps for a particular cause depict "spatial" clustering of two or more adjacent counties with high unadjusted and/or adjusted rates, using a procedure described in Section II. These maps are presented for a given cause only when a statistically significant spatial cluster was found to exist. Unlike the maps described above, these maps are presented in reduced form as part of the narrative and show up to three interval levels of death rates, depending on the number of significant spatial clusters found, along with the significance level (i.e., p-value).

MULTIPLE CONDITIONS PRESENT AT DEATH

Since 1975, multiple conditions present at death have been coded, and statistics are available for all conditions reported by the certifier. Five diseases--septicemia, diabetes, hypertension, atherosclerosis, and nephritis--are considered associated conditions far more often than they are reported as underlying causes. The importance of multiple conditions and the geographic patterns of these five diseases are discussed in Section IX, while the etiology and risk factors associated with septicemia, diabetes, atherosclerosis, and nephritis are discussed separately in Sections IV and VI. County rate tables for these diseases as underlying causes are likewise available in Sections IV and VI. Neither separate discussion nor a county rate table for hypertension is warranted, since it was reported as the underlying cause for only 283 deaths in 1988.

Tables included in Section IX show deaths cross-tabulated by underlying cause and associated mentioned conditions, death frequencies for selected pairs of mentioned conditions, and death rates based on mentioned conditions rather than underlying causes. Rates are deaths with the condition mentioned per 100,000 population. In addition, ratios of the 14 major causes (plus hypertension and four site-specific cancers) as mentioned conditions versus underlying causes are tabulated.

TABLE 1
MORTALITY STATISTICS FOR 1988 AND 1984-88
NORTH CAROLINA RESIDENTS

Cause of Death — Ninth Revision International Classification of Diseases		Number of deaths 1988	Death Rate* 1988	Death Rate* 1984-88
All Causes		57,630	8.9	8.6
Diseases of Heart	(390-398,402,404-429)	19,421	299.4	304.2
Cerebrovascular Disease	(430-438)	4,780	73.7	72.5
Atherosclerosis	(440)	414	6.4	8.0
Cancer	(140-208)	12,700	195.8	183.6
Lip, Oral Cavity, and Pharynx	(140-149)	234	3.6	3.4
Stomach	(151)	324	5.0	4.9
Colon, Rectum, and Anus	(153,154)	1,331	20.5	19.6
Liver	(155)	185	2.8	2.4
Pancreas	(157)	671	10.3	9.7
Larynx	(161)	86	1.3	1.5
Trachea, Bronchus, and Lung	(162)	3,669	56.6	51.6
Malignant Melanoma	(172)	204	3.1	2.7
Female Breast	(174)	1,093	32.5	31.2
Cervix Uteri	(180)	142	4.2	4.5
Ovary and other Uterine Adnexa	(183)	304	9.0	8.7
Prostate	(185)	839	26.9	24.5
Bladder	(188)	215	3.3	3.2
Brain Tumors	(191,225,237)	327	5.0	4.8
Non-Hodgkins Lymphoma	(200,202)	398	6.1	5.5
Leukemia	(204-208)	452	7.0	6.5
Septicemia	(038)	531	8.2	8.9
Diabetes Mellitus	(250)	1,326	20.4	15.9
Pneumonia and Influenza	(480-487)	1,930	29.8	27.0
Chronic Obstructive Pulmonary Disease and Allied Conditions	(490-496)	2,098	32.3	28.1
Chronic Liver Disease and Cirrhosis	(571)	701	10.8	10.0
Nephritis, Nephrotic Syndrome, and Nephrosis	(580-589)	469	7.2	8.4
Motor Vehicle Accidents	(810-825)	1,598	24.6	24.9
All Other Accidents and Adverse Effects	(800-807, 826-949)	1,616	24.9	23.6
Suicide	(950-959)	784	12.1	12.5
Homicide	(960-978)	578	8.9	9.0

*See Section II.

OVERVIEW OF MORTALITY IN NORTH CAROLINA

Mortality in North Carolina has exhibited a general downward trend in this century, but an upward trend since 1982, rising from a low of 8.1 deaths per 1,000 population in 1982 to a high of 8.9 in 1988. Probably the major factor contributing to this increase is aging of the state's population. Other factors that affect mortality include changes in lifestyle (e.g., reduction in smoking), environment, risk factors, and the medical care system. In sections III through IX of this report, these factors and others are considered in discussing each cause of death. This overview summarizes four general determinants of mortality as well as some of the risk factors which are associated with a number of different causes. Next, some of the major mortality findings are highlighted, and finally, premature mortality in North Carolina is examined via the concept of "years of life lost," which emphasizes the impact of mortality in the younger age groups (7).

DETERMINANTS OF MORTALITY

A broad view of mortality determinants shows that problems "arise from causes embedded in the social fabric of the nation as a whole" (8), and that medical care is only one aspect of health maintenance. Accordingly, environment, lifestyle, biology and genetics, and medical care must all be considered as determinants of health.

Over the past decade, environmental factors, both natural and man-made, have been increasingly recognized as having a significant impact on health. For example, naturally occurring variations such as water mineral content and elevation have been cited as influencing the incidence of cardiovascular disease (9). A more important problem may be the natural occurrence of radon gas in some homes. However, most serious environmental problems are consequences of man-made pollution of air, water, and food sources. Recent examples include atmospheric pollution from lead and ozone, ground water contamination from toxic wastes, and occupational exposures to hazardous substances. Children are especially at risk from pollutants such as ozone (10) and lead (11).

While pollution is a by-product of a high-technology, growth-oriented society, concomitants of economic growth also include jobs, income, health insurance, and improved access to medical care. Unemployment, poverty, and their social accompaniments are generally associated with less adequate mental and physical health. The poor, having fewer economic and social resources, experience higher levels of stress and are more vulnerable to infectious agents, economic problems, and hazards in the home and workplace. These problems are typified by farming. The prolonged decline of economic conditions for many farmers has increased stress. Pollution from agricultural chemicals (fertilizers and pesticides) and injuries are relatively common: among all industrial groups, farmers rank near the top on rates for poisoning, skin diseases, and injuries (12). Also, rural populations are less likely to have medical insurance and/or quick access to medical care. In short, economic conditions and environmental factors may interact in complex ways to affect health status.

Lifestyle refers to behaviors that affect health and over which individuals have varying degrees of control. There are substantial data showing that certain health habits (e.g., never having smoked, moderate or no alcohol consumption, regular exercise, sleeping 7-8 hours per night, and maintaining appropriate weight) are associated with improved health and reduced mortality (13). Individuals' lifestyle decisions regarding these variables are associated with their socioeconomic status, race, and sex: men are more likely than women to smoke and drink excessively and to exercise; younger women are more likely to smoke than older women; blacks are more likely to be sedentary and to smoke than whites; and black women are substantially overweight almost twice as often as white women. Persons with fewer than 12 years of education are more likely to smoke, sleep excessively, not exercise, and be substantially overweight. (13) In short, individuals' decisions are conditioned to a large extent by their socioeconomic status. "Blaming the victim" by keeping the problem at the individual level may obscure the origins of disease in the socioeconomic environment. However, policies to educate individuals about their health behaviors are much less complex and easier to sell politically than those aimed at modifying the underlying social and economic determinants of lifestyle and health.

This is not meant to suggest that health education is without impact. Certain population groups are more likely to have lifestyles associated with increased mortality, and education programs are effective (although short-run) complements to policies oriented toward the environmental factors that condition lifestyle. For example, nutrition education can have a substantial health payoff among the poor, but only if they are provided sufficient money to buy proper foods and facilities for preparation. Sex education for prevention of sexually transmitted diseases and unwanted pregnancies is another area where education may be very effective in altering specific high-risk behaviors that are or may be associated with lifestyle. Variables such as income, education, and residence (urban versus rural) may be important indicators and determinants of lifestyle (14), and effective education programs must consider variations along such dimensions. In short, targeting specific groups is likely to be more successful than generalized education or media campaigns.

Biological factors are relatively powerful determinants of mortality. The age, race, and sex of an individual are biologically determined, and mortality rates vary consistently along these dimensions: health is strongly tied to aging and the life cycle. Some diseases that vary by race are thought to be genetically linked, and biological factors account for some of the differences in incidence rates between males and females for some diseases, with females living longer on the average. However, there are health consequences of age, race, and sex that are not biological in origin. Social stratification is partly based on these variables, with the elderly, nonwhites, and females generally being accorded lower socioeconomic status. Some of the elevated male mortality may result from the aggressive, achievement-oriented lifestyle that accompanies higher status positions (15), while higher nonwhite mortality is due in part to a lower position in the economic hierarchy (16).

Many causes of diseases are directly or indirectly genetic in origin. In North Carolina, an estimated 320,375 persons are afflicted with serious genetic disorders, resulting in physical defects, mental retardation, and other health problems, and approximately 80 percent of birth defects are genetic in origin (17). Forty percent of the children admitted to inpatient pediatric care are there because of genetic disorders (18), and about 50 percent of all childhood blindness is linked to genetic factors (19). In North Carolina, congenital malformations are now the leading cause of mortality among infants under one year, and second only to injuries among children ages one through four (20). Overall, the 1988 congenital anomalies death rate was 5.3 deaths per 100,000 population. In addition, some persons have a genetically linked susceptibility to certain diseases. Some types of cancer, for example, may result from genetic weaknesses of the immunological system in combination with specific external agents (carcinogens).

The medical care system is another important determinant of mortality levels. This complex system is primarily reactive, in that it responds to health problems by attempting to restore the individual to a full and productive life. Disease prevention is also within the purview of the medical care system, as exemplified by vaccination to prevent infectious diseases and by patient education concerning specific health consequences of certain behaviors. Medical care personnel may occasionally be involved in attacking certain environmental and biological causes of disease, though this type of activity has traditionally been carried out by the public sector.

McKeown and Brown (21) present evidence suggesting that medical practice in the first half of the 19th century had little to do with the large decline in mortality that took place in Western societies, but rather that transportation improvements, changes in the economic system that assured a more continuous and nutritious food supply, and improved sanitation practices urged on by reformers in the cities were responsible. After the practice of antisepsis became widespread late in the 19th century, medical care became a much more positive factor in reducing mortality. During the first half of this century, the health and average life span of Americans improved considerably, due substantially to efforts in the medical sector to reduce infections and acute nutritional diseases. Major gains were also observed in infant and maternal mortality, probably due to improvements in nutrition, sanitation, and the development of vaccines (22). However, McKeown (23) notes that a significant reduction in mortality from the introduction of antibiotics cannot be demonstrated.

Medical care may sometimes have negative health consequences. It has been estimated that nosocomial infections (acquired inside the hospital) strike five percent of Americans hospitalized each year, adding to hospital costs by increasing lengths of stay (24). Inappropriate or unnecessary treatment may also increase mortality as well as health care costs. Probably less than 20 percent of the procedures used by health professionals have been demonstrated to be helpful in clinical trials (25). In short, risks are always present, even in proper medical treatment, but in most cases they are far outweighed by the potential benefits.

In summary, a complete program to improve health status and reduce mortality must include environmental, lifestyle, biological, and medical care strategies. Too much emphasis in one area may involve substantial opportunity costs due to neglect of other areas. For example, expenditures for basic research, for environmental protection, to improve substandard housing, or for public education regarding specific risk behaviors could have higher long-term health payoffs than would the same amount expended just for medical care. The status of heart disease and cancer as major killers is closely linked to environmental and lifestyle factors, and medical treatment or attempts to modify individual behaviors are unlikely to substantially reduce mortality from these diseases. Increased per capita consumption of foods high in animal fats along with the increase in sedentary occupations, and drinking and smoking associated with stresses on the individual and family unit all underlie both heart disease and cancer. In addition, the spiral of post-WWII economic production, technological achievements, and personal affluence have led to chronic exposure of large segments of the population to increasing numbers of carcinogens in the air, water, and food supplies. Cancer control is such a difficult policy area precisely because cancer prevention will require fundamental changes in the physical--and therefore economic--environment, as well as modification of behaviors and lifestyle. Policies aimed at improving the medical treatment of cancer patients, while often costly, are probably easier to implement, but they do not confront the basic problems. In brief, strategies to deal with cancer, heart disease, and other leading causes of mortality must deal with factors that exist in the fabric of contemporary society.

RISK FACTORS

Risk factors particular to each cause of death are discussed in separate sections of this volume. In addition, information about several factors that are common to a number of different causes of death is summarized here.

Two of the most pervasive factors contributing to U.S. mortality from various diseases are high blood pressure and cigarette smoking. Elevated blood pressure is associated with death from all cardiovascular diseases, diabetes mellitus, cirrhosis of the liver (26, 27) and renal failure (28). While most causes of hypertension are amenable to treatment, many people either are unaware of having the condition or do not modify behaviors (e.g., maintain proper weight, diet, and medication regimen) necessary to control it.

Use of tobacco products contributes to death from a large number of causes (26, 27, 29-32). According to data compiled by the U.S. Surgeon General (32), cigarette smoking is a major cause of lung cancer as well as cancers of the larynx, oral cavity, and esophagus; it is a contributory factor in the development of cancers of the bladder, pancreas, and kidney; and approximately 30 percent of all cancer deaths are attributable to cigarette smoking. There is evidence that it is a contributor in the development of chronic bronchitis and emphysema, pulmonary heart disease, myocardial infarction, aortic aneurysm, and a wide variety of other vascular diseases. It may be a risk factor for Alzheimer's Disease (33). In addition, smoking seems to interact synergistically with other risk factors, such as asbestos, ionizing radiation, oral contraceptives, and certain dietary factors, to produce a variety of cancers and vascular diseases. While the low tar, low nicotine cigarette may be less likely to cause lung cancer or chronic bronchitis, its carbon monoxide content--which is associated with vascular disease--remains unchanged. The increased use of smokeless tobacco (snuff, chewing tobacco, and similar products) is disturbing, since these products are associated with tongue cancer mortality and oral cancers in general (34, 35). Finally, the impact of tobacco use on mortality is such that nearly 50 percent of the difference by sex in total mortality over the adult age span is likely attributable to smoking (36). The data indicate that a considerable reduction in morbidity and mortality related to tobacco usage is likely to come about only with a substantial reduction in usage of tobacco products (29).

Diet also has an important impact on certain causes of mortality. Overeating may lead to obesity, which is associated with high blood pressure, diabetes, and cardiovascular disease. In turn, diabetes is a risk factor for stroke and other cardiovascular diseases. In addition, the content of the modern diet has important consequences for mortality. The contemporary diet " . . . is higher in intake of energy, of protein (especially animal protein), and of fat (especially animal fat), but lower in intake of fiber-containing cereal foods; this diet is associated with high rates of morbidity and mortality from degenerative diseases" (37). Based on findings such as these, decreased intake of animal fat and protein, cholesterol, salt, sugar, and alcohol are often--but not unanimously--recommended.

Excessive alcohol consumption is the third largest health problem in America (38) and is associated with a risk of premature death greatly exceeding normal expectancy from a variety of diseases (39-41). "While the lifestyle typical of many heavy drinkers contributes to this risk, the effects of alcohol per se account for a substantial part of the excess mortality" (39). In two Chicago studies, heavy drinkers had higher mortality from all causes, cardiovascular diseases, coronary heart disease, and sudden death than could be entirely explained by other risk factors such as blood pressure, smoking, and weight (40). Heavy alcohol use by pregnant women leads to birth anomalies, including fetal alcohol syndrome and subsequent mental retardation (38). In contrast to findings for excessive alcohol consumption, the mortality experience of moderate drinkers does not seem to differ notably from that of life-long abstainers (39).

Social class has a very strong impact on mortality (16, 30, 42). "Social class gradients of mortality and life expectancy have been observed for centuries, and a vast body of evidence has shown consistently that those in the lower classes have higher mortality, morbidity, and disability rates" (16). The higher morbidity rates typically found in lower socioeconomic status groups indicate that the excess mortality is not simply attributable to a higher case fatality rate, since it is accompanied by a higher prevalence of morbidity. Differences between white and nonwhite mortality rates can be attributed largely to social class differences: persons in lower socioeconomic groups, who are substantially nonwhite, live in a more toxic, hazardous, and non-hygienic environment resulting in a broad array of disease consequences. Low education contributes to poor health practices, and low income affects many aspects of health, including nutrition. Higher stress levels and ineffective responses to stress also contribute to higher mortality among the poor (16). Lower class persons generally receive less adequate medical care, though this probably does not account for a major portion of the social class differences in morbidity and mortality (16). In fact, the association between excess mortality and low socioeconomic status persists independent of individual behaviors or attributes such as smoking, alcohol consumption, body mass index, physical activity, martial status, race, and sex; hence the " ...

properties of the sociophysical environment may be important contributors to the . . . excess mortality" (43).

Sex is another important variable associated with mortality. Females have lower mortality rates and greater life expectancies than males in all developed countries (36). The differential in death rates is present at conception and continues for every age group. At birth, the ratio of males to females is 104:100, but by age 70 females outnumber males by approximately 3:2. In the United States, the 1987 age-adjusted death rate for males exceeded that of females by 73 percent (3).

A substantial amount of excess male mortality is related to sex differences in behavior, such as cigarette smoking, drinking alcohol, aggressive competitiveness, and occupational exposure to environmental and physical hazards (15). For 15-44-year-olds, more than 90 percent of the excess male mortality may be attributable to violence and smoking (36). Biological factors also contribute to higher male mortality. "Thus, even among nonsmokers, men have higher mortality than women for certain types of cancer, and this implies that there must be other factors, in addition to smoking, that contribute to higher cancer among men" (36).

To the extent that the sex difference in mortality is not due to biological factors, substantial reductions in male excess mortality may be possible through lifestyle and behavioral changes. With the transition earlier in this century from infectious to degenerative diseases as the major causes of death, lifestyle became more important in affecting mortality experience, and the difference between male and female mortality rates increased steadily. More recently, female mortality relative to male mortality has actually worsened for several age groups and for several leading causes (44). This may be associated with increased smoking (29) and the adoption of other "male" behaviors by women as job participation and mobility increase and traditional roles are modified. Thus, social and lifestyle changes may also help to reduce female mortality.

A number of risk factors have been reviewed that bear on many causes of death, and efforts to reduce excess mortality must involve consideration of these important precursors.

NORTH CAROLINA MORTALITY HIGHLIGHTS

- As shown in Table 1, a total of 57,630 North Carolinians died in 1988, for a rate of 8.9 deaths per 1,000 population. The 1988 crude rate was three percent above the 1987 rate. The five-year (1984-88) crude rate was 8.6, which was four percent over the rate for the 1979-83 period. The median age at death in 1988 increased to 72.9 years, up from 72.6 in 1987 and consistent with a generally steady increase in the median over the last three decades.

- The number of deaths per 1,000 population was slightly (under 2%) higher for nonwhites than for whites, and substantially higher for males than for females (by 21%). A much younger age structure for nonwhites accounts for the fact that their crude mortality rate is not higher in comparison for whites. Age-adjusted mortality is much higher for nonwhites.

- Age-adjusted mortality rates for the 1984-88 period show wide gaps in the overall risk of mortality by race and sex. In the 1984-88 period, the male rate for both races was approximately 90 percent greater than the female rate, and the nonwhite rate for both sexes remained more than 45 percent above the white rate.

- Comparisons of the 1987 N.C. age-race-sex-specific mortality rates with corresponding rates for the U.S. (3) reveal the following major excesses* in North Carolina:

White males: Under 1 and ages 65-74 (11% above the U.S. rate);

White females: Under 1 (17% above U.S. rate);

Nonwhite males: Ages 1-4 (50%), 5-14 (36%), 45-54 (29%), 55-64 (26%), 65-74 (27%), 75-84 (16%);

Nonwhite females: Ages 45-54 (18%)

- Even after adjusting for age, race, and sex, the eastern counties, especially the northeastern counties, seem to have consistently higher mortality rates. Based on the 1984-88 adjusted rates, statistically significant spatial clusters exist in the eastern third of North Carolina for total mortality, chronic obstructive pulmonary disease, total cancer, colon cancer, and cerebrovascular disease. For the 1984-88 period, the highest overall adjusted death rate was in DHR Region IV (the Eastern region).

- The ten leading causes of deaths in 1988 were (in descending order) heart disease, cancer, cerebrovascular disease, unintentional injuries, chronic obstructive pulmonary disease, pneumonia/influenza, diabetes, suicide, chronic liver disease/cirrhosis, and homicide. However, based on the number of years of life lost prematurely for each cause, the order of the ten leading causes shifts to cancer, heart disease, unintentional injuries, suicide, homicide, cerebrovascular disease, chronic obstructive pulmonary disease, chronic liver disease/cirrhosis, diabetes, and pneumonia/influenza.

---

*North Carolina excesses for nonwhites reflect to some extent the fact that the proportion of blacks in the N.C. nonwhite population is greater than for the U.S., and mortality rates for black males and females in each age group generally exceed the corresponding nonwhite rates.

- Nonwhite males have a greater risk of death from unintentional injuries at every age interval except 15-24 and 85 and older where white males have the highest rates. The 1988 age-adjusted nonwhite male rates for motor vehicle and all other unintentional injuries exceeded rates for white males by 47 and 124 percent respectively.

- Comparing the U.S. and N.C. 1987 unadjusted rates, mortality in N.C. was more than 23 percent greater for unintentional injuries and septicemia, 14 percent greater for cerebrovascular disease, and five percent greater for homicide. However, for most remaining leading causes including cancer and diseases of the heart, the N.C. unadjusted rates were two to 20 percent lower than the corresponding U.S. rates. Total mortality for N.C. was one percent lower than for the U.S. After adjusting for the state's more youthful age structure, mortality conditions in N.C. appear less favorable, especially for cerebrovascular disease, unintentional injuries, and septicemia. The adjusted total mortality rate for N.C. was nearly six percent greater than for the U.S.

- The 1988 total cancer rate was three percent above the rate for 1987. Site-specific cancers showing large percentage increases in rates for 1988 were leukemia (+10%) and cancer of the pancreas (+8%). Of the four major cancers, rates for three (trachea/bronchus/lung; breast; and prostate) each increased by about six percent while cancer of the colon/rectum/anus increased approximately two percent. Cancer of the cervix uteri and stomach cancer each decreased by about three percent. However, some of these increases reflect aging of the state's population. After adjusting for age, the increase in the total cancer rate between 1987 and 1988 dropped to one percent; the rate for cancer of the colon/rectum/anus decreased by three percent; the rate for breast cancer was essentially unchanged; and rates for cancer of the trachea/bronchus/lung and prostrate cancer showed four percent increases. By race and sex, the 1988 age-adjusted rates for males were substantially higher than those for females, and rates for nonwhites were higher than those for whites.

Total cancer mortality (the unadjusted rate) increased steadily (by 19 percent in total) between 1980 and 1988 and rose 10 percent during the 1984-88 five-year period in comparison to the 1979-83 period. Further comparisons of the five-year periods show that unadjusted rates for cancer of the trachea/bronchus/lung and breast cancer each increased by about 20 percent, and prostrate cancer and cancer of the ovary and other uterine adnexa both increased by 13 percent. The rate for cancer of the cervix uteri decreased by 10 percent, while leukemia and stomach cancer rates decreased by two percent. Comparisons based on age-adjusted rates show that total cancer increased by two percent, while cancer of the trachea/bronchus/lung and breast increased by 12 percent and 11 percent respectively.

o Between the 1979-83 and 1984-88 five-year periods, the pneumonia/influenza and chronic obstructive pulmonary disease (COPD) crude death rates in N.C. increased 26 and 28 percent respectively. For both causes, large crude rate increases over the last five years occurred between 1987 and 1988. After adjusting for age, the mortality rate for pneumonia/influenza shows a relatively moderate increase of eight percent between the 1979-83 and 1984-88 periods, whereas the corresponding increase for COPD was more substantial (about 15 percent). Based on 1987 age-adjusted rates, North Carolina's rates for COPD and pneumonia/influenza are about six percent and one percent respectively less than corresponding U.S. rates (3). Race-sex-specific age-adjusted rates show that males of both races die from each of these causes substantially more often than females. COPD mortality rates for whites are higher than for nonwhites, while nonwhites have higher rates from pneumonia/influenza.

o The suicide crude death rate decreased slightly in four of the last five years. In 1988, the rate fell by less than two percent, to slightly below the 1987 U.S. rate. Between the 1979-83 and 1984-88 periods, the age-adjusted suicide rate remained essentially stable. Based on 1984-88 age-adjusted data, the rate for white males is approximately twice that of nonwhite males and nearly three times that of white females, while nonwhite females have an age-adjusted rate less than half that of white females.

o The homicide crude death rate increased from 1984 to 1986, then decreased in 1987 and 1988. For the five-year period 1984-88, the rate was 16 percent lower than for the preceding five years (1979-83), although it was above the U.S. rate for 9 of the 10 years between 1979 and 1988. Between 1987 and 1988, the age-adjusted homicide rate declined about 11 percent for whites and increased five percent for nonwhites of both sexes. In 1988 about 40 percent of all homicide victims were nonwhite males; yet nonwhite males represent only 11 percent of the total population. The age-adjusted homicide rate for nonwhite males exceeded that for white males by 327 percent.

PREMATURE MORTALITY IN NORTH CAROLINA

Since 1914, when deaths were first centrally recorded in North Carolina, the leading causes of mortality have been ranked according to number of deaths. North Carolina deaths in 1988 have been ranked in Table A for each race-sex group based on this traditional method. As shown, heart disease and cancer are the leading causes of death for each group, unintentional injuries are the third leading cause for white and nonwhite males, and stroke (cerebrovascular disease) is the third leading cause for white and nonwhite females. The rankings of most causes, as well as the sizes of the rates for the same cause, vary among the four groups.

Rankings based only on number of deaths (or rate per 100,000 population), however, do not necessarily indicate where medical and public health intervention strategies can be most effectively employed. Since death is postponable but not preventable, age at death is a key factor to consider. Prevention of a death that would otherwise occur early in life could be assigned higher priority than prevention of a death later in life. A convenient method of ranking causes of death that incorporates age at death is by "years of life lost" (7). If the average life expectancy at birth for white males, for example, is 70 years, a death at age 65 would mean five years of life lost (on the average), while a death at age 40 would mean 30 life-years lost. A white male infant death results in 70 years of life lost, whereas deaths at ages 70 and over do not contribute to "life-years lost" for white males. Based on the 1990 life tables for North Carolina (43), the life expectancies used here to calculate years of life lost were 72 for white males, 80 for white females, 67 for nonwhite males, and 76 for nonwhite females. For each death in a given cause group, age at death was subtracted from the appropriate life expectancy and all of these life-years lost were then summed for that race-sex group. Deaths over the specified life expectancies were not counted. A rate of years-of-life-lost per 100,000 population was then computed for ranking the causes of death, so that comparisons can be made across race-sex groups. These rates are given in Table B.

A more accurate determination of years of life lost is based on an average expected remaining years of life for each age of death rather than an average life expectancy at birth. This procedure was considered too complicated for the present application, and probably would not produce rankings substantially different from those in Table B. It would place somewhat less emphasis on infant mortality, since more years of life lost would be generated for the causes listed in Table B.

Table B displays the leading causes of death ranked according to years of life lost per 100,000 population. Heart disease and cancer are still very important causes of death from this perspective, but other causes become much more prominent than before. Unintentional injuries (motor vehicle injuries and other injuries combined) account for more than twice as many years of life lost for nonwhite males than any other cause except heart disease, and were also the top-ranked cause for white males. The general seriousness of injuries as a life and health hazard is clearly shown in this table. Unintentional injuries become a much more important cause of death relative to heart disease from this perspective, since injury decedents (who died prior to normal life expectancy) are on average about 28 years younger than heart disease decedents. Likewise, cancer decedents who die prior to normal life expectancy are on average more than two years younger than heart disease decedents. Cancer accounts for the most years of life lost among white women and in total, in part because the life expectancy for white women is substantially longer than for any other race-sex group.

TABLE A

1988 North Carolina Leading Causes of Mortality Ranked by Death Rate (Deaths per 100,000 Population) for Race-Sex Groups (Based on Underlying Cause of Death)

TOTAL		WHITE MALES		WHITE FEMALES		NONWHITE MALES		NONWHITE FEMALES	
Heart Disease	299.4	Heart Disease	339.0	Heart Disease	280.6	Heart Disease	294.7	Heart Disease	246.9
Cancer	195.8	Cancer	222.9	Cancer	179.8	Cancer	226.6	Cancer	139.5
Cerebrovascular Disease	73.7	Unintentional Injuries	60.9	Cerebrovascular Disease	85.4	Unintentional Injuries	97.0	Cerebrovascular Disease	85.6
Unintentional Injuries	49.5	Cerebrovascular Disease	57.3	Pneumonia and Influenza	32.9	Cerebrovascular Disease	73.0	Diabetes Mellitus	37.0
Chronic Lung Disease	32.3	Chronic Lung Disease	46.7	Unintentional Injuries	31.5	Homicide	31.8	Unintentional Injuries	30.1
Pneumonia and Influenza	29.8	Pneumonia and Influenza	30.7	Chronic Lung Disease	28.5	Penumonia and Influenza	29.5	Pneumonia and Influenza	17.8
Diabetes Mellitus	20.4	Suicide	23.4	Diabetes Mellitus	19.1	Chronic Lung Disease	27.6	Chronic Liver Disease	12.1
Suicide	12.08	Diabetes Mellitus	15.2	Septicemia	9.5	Diabetes Mellitus	23.2	Septicemia	10.9
Chronic Liver Disease	10.8	Chronic Liver Disease	13.1	Atherosclerosis	7.5	Chronic Liver Disease	17.0	Kidney Disease	10.8
Homicide	8.9	Homicide	8.0	Chronic Liver Disease	6.4	Kidney Disease	12.1	Homicide	10.2
Septicemia	8.2	Kidney Disease	5.7	Kidney Disease	6.1	Suicide	10.5	Atherosclerosis	7.5
Kidney Disease	7.2	Septicemia	5.3	Suicide	5.2	Septicemia	10.1	Chronic Lung Disease	7.3
Artheroscleorsis	6.4	Atherosclerosis	4.6	Homicide	2.7	Atherosclerosis	6.8	Suicide	2.0

TABLE B

1988 North Carolina Leading Causes of Mortality Ranked by Years of Life Lost per 100,000 Population for Race-Sex Groups (Based on Underlying Cause of Death)

TOTAL		WHITE MALES		WHITE FEMALES		NONWHITE MALES		NONWHITE FEMALES	
Cancer	1,813	Unintentional Injuries	1,926	Cancer	2,329	Unintentional Injuries	2,824	Heart Disease	1,582
Heart Disease	1,598	Heart Disease	1,840	Heart Disease	1,391	Heart Disease	1,542	Cancer	1,571
Unintentional Injuries	1,507	Cancer	1,545	Unintentional Injuries	873	Cancer	1,182	Unintentional Injuries	1,070
Suicide	339	Suicide	602	Stroke	337	Homicide	1,046	Stroke	539
Homicide	325	Homicide	278	Chronic Lung Disease	255	Stroke	368	Homicide	466
Stroke	308	Chronic Liver Disease	179	Suicide	182	Suicide	319	Diabetes Mellitus	292
Chronic Lung Disease	183	Stroke	178	Diabetes Mellitus	168	Chronic Liver Disease	296	Chronic Liver Disease	277
Chronic Liver Disease	174	Chronic Lung Disease	152	Penumonia and Influenza	113	Penumonia and Influenza	243	Pneumonia and Influenza	167
Diabetes Mellitus	165	Pneumonia and Influenza	124	Homicide	113	Diabetes Mellitus	158	Chronic Lung Disease	115
Pneumonia and Influenza	139	Diabetes Mellitus	120	Chronic Liver Disease	101	Chronic Lung Disease	116	Septicemia	106
Septicemia	65	Septicemia	32	Septicemia	82	Kidney Disease	89	Kidney Disease	96
Kidney Disease	50	Kidney Disease	30	Kidney Disease	43	Septicemia	69	Suicide	81
Artherosclerosis	10	Atherosclerosis	8	Atherosclerosis	9	Atherosclerosis	19	Atherosclerosis	10

REFERENCES FOR SECTION I

1. United States Department of Health, Education, and Welfare. Public Health Service, National Vital Statistics Division. Vital Statistics of the United States, Volume II-Mortality (Part A). Washington, 1960, 1970.

2. U.S. Department of Health and Human Services. Public Health Service, National Center for Health Statistics. Vital Statistics of the United States, Volume II-Mortality (Part A). Washington, 1980.

3. U.S. Department of Health and Human Services. Public Health Service, Centers for Disease Control, National Center for Health Statistics. Vital Statistics of the United States, Volume II-Mortality (Part A). Washington, 1987.

4. International Classification of Diseases, 9th Revision, Volume 1, Diseases: Tabular List, Commission on Professional and Hospital Activities, Ann Arbor, MI, 1980.

5. Grove, R.D.; Hetzel, A.M. Vital Statistics Rates in the United States: 1940-1960. Public Health Service Publication Number 1677, U.S. Government Printing Office, Washington, 1968.
6. SAS Institute Inc. SAS User's Guide: Statistics, 1982 Edition, Cluster Procedure. Cary, N.C.

7. Kleinman, J.C. *Statistical Notes for Health Planners: Mortality*. Public Health Service Publication Number 1677, U.S. Government Printing Office, Washington, 1968.

8. Lalonde, M.A. *A New Perspective on the Health of Canadians*. Government of Canada, Ottawa, 1974.

9. North Carolina Department of Human Resources, Division of Health Services, Public Health Statistics Branch. "Associations Between Mortality and Various Social, Economic, and Environmental Factors in North Carolina," *PHSB Studies*. No. 3, Raleigh, April 1977.

10. Landrigan, P.J. "Comment: The Effects of Ozone Pollution on Our Children." *The Nation's Health*, Vol. XIX, No. 4, April, 1989, pg. 9.

11. Gannon, I.R., "President's Column," *The Nation's Health*, Vol. XIX, No. 7, July, 1989, pg. 2.

12. Gannon, I.R., "President's Column," *The Nation's Health*, Vol. XIX, No. 4, July 1989, pg. 2.

13. Schoenborn, C.A. "Health Habits of U.S. Adults, 1985: the "Alameda 7" Revisited," *Public Health Reports*, Nov-Dec; Vol 101, No. 6, 1986, pp. 571-580.

14. North Carolina Department of Human Resources, Division of Health Services, Public Health Statistics Branch. "Health Characteristics of Adults in North Carolina," *PHSB Studies*. No. 11, Raleigh, NC, July 1978.

15. Waldron, I. "Why Do Women Live Longer Than Men?," *Social Science and Medicine*. Vol. 10, 1976, pp. 349-362.

16. Syme, S.L.; Berkman, L.F. "Social Class, Susceptibility, and Sickness," American Journal of Epidemiology. Vol. 104, No. 1, 1976, pp. 1-8.

17. What Are The Facts about Genetic Disease? The National Institute of General Medical Sciences, The National Institutes of Health, Bethesda, MD, 1980.

18. North Carolina Department of Human Resources, Division of Health Services, Public Health Statistics, North Carolina Vital Statistics: Quarterly Provisional Report. Raleigh, January-March, 1978.

19. Robinson, C.G. "Causes, Occular Disorders, Associated Handicaps, and Incidence and Prevention of Blindness in Childhood," in Visual Impairments in Children and Adolescents, eds. Jan, S.E.; Freeman, R.D.; and Scott, E.P.; Grune & Stratton, New York, 1977.

20. N.C. Department of Human Resources, Division of Health Services, State Center for Health Statistics, "North Carolina Surveillance of Birth Defects." SCHS Studies. No. 52, Raleigh, September 1989.

21. McKeown, T.; Brown, R.G. "Medical Evidence Related to English Population Changes in the Eighteenth Century," Population Studies, No. 9, 1955, pp. 119-141.

22. Jonas, S. Health Care Delivery in the United States. Third Edition, Springer Publishing Company, New York, 1986, pp. 24-25.

23. McKeown, T. The Role of Medicine: Dream, Mirage, or Nemesis. London: The Nuffield Provincial Hospitals Trust, 1976.

24. Cassel, E. Human Ecology and Public Health. Kilbourne and Smillie, Editors, 1969, pg. 353.

25. White, K. Personal communication. 1982, in Jonas, S. Health Care Delivery in the United States. Third Edition, Springer Publishing Company, New York, 1986, pg. 25.

26. Paffenbarger, R.S.; Brand, R.J.; Sholtz, R.I.; Jung, D.L. "Energy Expenditure, Cigarette Smoking, and Blood Pressure Level as Related to Death from Specific Diseases," American Journal of Epidemiology. Vol. 198, No. 1, 1978, pp. 12-18.

27. Eyer, J. "A Diet/Stress Interaction Hypothesis of Coronary Heart Disease Epidemiology," International Journal of Health Services. Vol. 9, No. 1, 1979, pp. 161-168.

28. Manton, K.G.; Patrick, C.H.; and Johnson, K.W. "Health Differences between Blacks and Whites: Recent Trends in Mortality and Morbidity," The Milbank Quarterly. Vol. 65, Suppl. 1, 1987, pp. 129-199.

29. Doll, R. "The Smoking Induced Epidemic," Canadian Journal of Public Health, Vol. 72, November-December, 1981, pp. 372.

30. Curtiss, J.; Grahn, R.B.; Grahn, D. "Population Characteristics and Environmental Factors That Influence Level and Cause of Mortality: A Review," Journal of Environmental Pathology and Toxicology. Vol. 4, No. 2, 1980, pp. 471-511.

31. Doll, R.; Peto, R. "The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the U.S. Today," Journal of the National Cancer Institute, 1981.

32. US Department of Health and Human Services, Office on Smoking and Health. The Health Consequences of Smoking: Cancer, A Report of the Surgeon General. Rockville, Md., 1982.

33. Shalat, S.L; B.; Pidcock, C., et. al. "Risk Factors for Alzheimer's Disease: A Case-Control Study," Neurology. Vol. 37 No. 10, October, 1987 pp. 1630-1633.

34. Davis, S.; Severson, R.K. "Increasing Incidence of Cancer of the Tongue in the United States Among Young Adults". (Letter), Lancet 2 (8564), pp. 910-911, October 17, 1987.

35. Connoly, G.N.; Blum, A; Richards, J.W. Smoke Screen Around Oral Snuff. (Letter), Lancet 2 (8551), pg. 160, July 18, 1987.

36. Waldron, I. "The Contribution of Smoking to Sex Differences in Mortality", Public Health Reports, 101(2), March-April 1986, pp. 163-173.

37. Walker, A.R. "Dietary Goals, Sensible Eating, and Nutrition in the Future," South African Medical Journal. Vol 57, No. 4, 1980, pp. 471-511.

38. West, L.J.; Maxwell, D.S.; Noble, E.P.; Solomon, D.H., "Alcoholism." Annals of Internal Medicine. Vol. 100, 1984, pp. 405-416.

39. Schmidt, W.; Popham, R.E. "Heavy Alcohol Consumption and Physician Health Problems: A Review of Epidemiological Evidence," Drug and Alcohol Dependence, Vol. 1, No. 1, 1975, pp. 27-50.

40. Dyer, A.R.; et al. "Alcohol Consumption, Cardiovascular Risk Factors, and Mortality in Two Chicago Epidemiologic Studies," Circulation. Vol. 56, No. 6, December, 1977, pp. 1067-1074.

41. Buescher, P.A.; Patetta, M.J., "Alcohol-Related Morbidity and Mortality in North Carolina." SCHS Studies. N.C. Department of Human Resources, Division of Health Services, State Center for Health Statistics, No. 41, July, 1986.

42. Egbuonu, L. "Child Health and Social Status," Pediatrics. Vol. 69, No. 5, 1982, pp. 550-557.

43. Haan, M.; Kaplan, G.A.; Camacho, T. "Poverty and Health: Prospective Evidence from the Alameda County Study." American Journal of Epidemiology, Vol. 125, No. 5, June, 1987, pp. 989-998.

44. Verbrugge, L.M. "Recent Trends in Sex Mortality Differentials in the United States," Women and Health, Vol. 5, No. 3, 1980, pp. 17-37.

II. TECHNICAL NOTES

NORTH CAROLINA POPULATION BASES

Every ten years (years ending in zero) the United States Bureau of the Census has conducted a count of the United States population, which includes a profile of the population's characteristics such as age, race, and sex. After a census year, estimates of population size and composition are based on knowledge of the population in the census year plus subsequent events such as births, deaths, and migration. In the later years of a decade, these estimates may depart considerably from the "true" population values if the assumptions about population changes differ significantly from what actually occurred. Since almost all mortality rates in CHES publications are based on population counts in the denominator, changes in estimates of population such as might result from a new census could cause substantial changes in the trend of rates over time.

State and county population bases are obtained from the North Carolina Office of State Budget and Management, and incorporate assumptions about births, deaths, net migration, and institutional populations (1). In this volume the reader should note that pre-1988 rates have been corrected for changes in population bases in order to interpret trends. These corrected rates may differ slightly from the rates shown in previous CHES publications.

MORTALITY RATES

COMPUTATION OF MORTALITY RATES

In this report, total death rates are expressed as resident deaths per 1,000 population while all cause-specific mortality rates are expressed as resident deaths per 100,000 population. All rates in Tables 1-20 use total population in the denominator, except rates for the sex-specific cancer sites, which use male or female population in the denominator. Population bases for these rates were provided by the Office of State Budget and Management in the Governor's Office. The infant mortality rates of Table 21 and Figure 17 are computed as the number of resident deaths under one year of age per 1,000 resident live births.

Vital events in this report are allocated to place of residence. For deaths of inmates of long-term institutions (mental, penal, old age, orphan, nursing home, rest home, etc.), the institution is considered the usual residence provided the decedent had resided in the institution at least one year. College students and military personnel are considered residents of the college or military community.

The following definitions apply to the rates of Tables 2-20.

> **Unadjusted Annual Death Rate:** the annual death rate computed as resident deaths per 1,000 or 100,000 population. These rates permit the user knowledge of an area's status with respect to the observed incidence of mortality during the given year.

Unadjusted 5-Year Death Rate: the average annual death rate computed as average resident deaths per 1,000 or 100,000 average population. These rates permit the user knowledge of an area's status with respect to the observed incidence of mortality during the 5-year period. These rates are depicted in the Series A maps (e.g., Figures 2.A, 3.A, etc.).

Adjusted 5-Year Death Rate: the average annual age-race-sex-adjusted rates computed by the direct method. Also expressed as deaths per 1,000 or 100,000 population, these rates are those which **would be expected** if the average annual age, race, and sex composition of each county's population were the same as that estimated for the state. These rates are free of differing effects of age, race, and sex and thus permit the user knowledge of an area's status with respect to other determinants of mortality during the 5-year period. Adjusted rates for different time periods cannot be directly compared unless they were adjusted by the same standard population. The adjusted rates are depicted in the Series B maps (e.g., Figures 2.B, 3.B, etc). [Note: For the two sex-specific cancer sites (female breast and prostate), rates are adjusted for age and race and denominators are sex-specific.]

Except as noted in the text of this report, the age-adjusted death rates cited in the narrative (not the age-race-sex adjusted rate in tables 2-20) use the 1940 U.S. Census as the standard for direct age-adjustment, following the convention of the National Center for Health Statistics. The use of this standard is necessary for comparison of N.C. and U.S. age-adjusted rates.

For the maps, a clustering routine* from the Statistical Analysis System (SAS) was used to group counties that are "most like each other" with respect to their unadjusted rates and then their adjusted rates (2). These maps show six levels of death rates, where level one is the lowest rate interval and level six the highest.

INTERPRETATION OF MORTALITY RATES

To assess an area's relative mortality conditions during a five-year period, both the unadjusted rate and the adjusted rate can be compared to the state rate for a particular cause of death. Then, provided the area's unadjusted rate represents a relatively stable situation, viz., the rate has not fluctuated widely in recent years, the following alternative diagnoses will apply:

Relative Status Of		
Unadjusted Rate	**Adjusted Rate**	**Diagnosis**
Low	Low	Low mortality is not due to age, race, and sex factors; other mortality conditions are favorable.

---

*In 1983 the CHES conducted an evaluation of several clustering methods. It was found that one method, called "Average Linkage Method," produced tighter clusters (i.e., clusters with smaller within-cluster variances) than the other methods examined. Consequently, we have used this method henceforth to cluster county rates in all CHES publications.

Relative Status Of Unadjusted Rate	Adjusted Rate	Diagnosis
Low	High	Low mortality is due to favorable age, race, and sex factors; other mortality conditions are unfavorable.
High	Low	High mortality is due to unfavorable age, race, and sex factors; other mortality conditions are favorable.
High	High	High mortality is not due to age, race, and sex factors; other mortality conditions are unfavorable.

In using adjusted rates, it is important that the user understand the reason for adjustment. The following hypothetical example illustrates. Here, A and B stand for population subgroups, e.g., whites and nonwhites, males and females, etc.

	COUNTY			STATE		
	POPULATION	DEATHS	DEATH RATE*	POPULATION	DEATHS	DEATH RATE*
Population A	300,000	1,000	333.3	500,000	2,500	500.0
Population B	10,000	10	100.0	800,000	1,000	125.0
Total	310,000	1,010	325.8	1,300,000	3,500	269.2

*Deaths per 100,000 population.

Compared to the state, county subgroups A and B both have lower rates, but the county as a whole (A and B combined) has a higher rate. This seemingly paradoxical situation results from two factors: different proportions of A and B in the county vs.

the state population and wide differences between the rates for A vs. B. In this example, it is true that the county has a higher total rate--BUT ONLY BECAUSE THE POPULATION CONTAINS A HIGH PROPORTION OF SUBGROUP A.

Certainly, it is important for program planners to know that the county has a high rate relative to the state rate; this information is needed in determining manpower and facility needs, etc. But in assessing "risk," the researcher needs to adjust for confounding factors such as age or race. To do this, one multiplies each population-specific county rate by the corresponding "standard" population, sums these results, and divides by the total "standard." In the above example, using the state population as the standard, the computation is:

$$\frac{(1{,}000/300{,}000 \times 500{,}000) + (10/10{,}000 \times 800{,}000)}{1{,}300{,}000} = 0.001897 \text{ or } 189.7 \text{ per } 100{,}000 \text{ population}$$

Thus, as rates specific for A and B imply, the county's rate is lower than the state's rate after adjustment for the factor represented by A and B.

CAUTION!

In assessing the relative mortality conditions of a county, one should be particularly aware of rates based on small numbers of deaths since, in such cases, random fluctuation in the rate may render rate comparisons risky. The reader should read very carefully the next section entitled "Flagging Biased Rates."

FLAGGING BIASED RATES

This section discusses the problem of unstable mortality rates and then describes a method of flagging rates with a large bias in a given year. The reason for flagging an unstable or possibly biased rate is to provide the reader with a criterion for placing confidence in statements, tables, maps, and other interpretative displays of the mortality data. Not all calculated rates are an accurate portrayal of the "true" force of mortality, and the intent of this section is to caution the reader against uncritically using the rates in this volume. Especially in the maps, the reader should be alert to unusually high rates that may result from very small numerators or from the type of bias described below.

Any rate with a small number of events (deaths) in the numerator will be unstable, with possibly large random fluctuations from year to year that do not comprise a significant trend. Such a rate is said to have a large standard error. A useful rule is that any rate based on fewer than 20 events in the numerator may have a 95 percent confidence interval that is wider than the rate itself (3). For example, in an area with 20 deaths out of 20,000 population, the measured rate, stated as deaths per 100,000 population, would be 100. But due to variability over time in rates based on small numerators, one could say with 95 percent certainty that the underlying or "true" rate (of which the sample rate of 100 is the best estimate) is between approximately 50 and 150 deaths per 100,000. The width of the interval (100) is relatively large because rates based on small numerators may differ considerably from the actual or "true" rate. Many of the rates in this volume have numerators smaller than 20 and thus a large standard error, and any conclusions about trends based on these rates should be made very cautiously, if at all.

The age-race-sex-adjusted rates in this volume, described in the previous section, are likewise subject to random variability over time, and those rates involving a small number of deaths will be the most unstable. For example, one death out of an estimated population of 5 would produce a death rate of 20,000 per 100,000 population. If this rate were applied to the appropriate age-race-sex group of the standard population, a very large number of expected deaths would result and the adjusted rate would be biased.

Counties with a small number of persons in one or more of the 40 age-race-sex groups are most likely to have adjusted rates with a large standard error, and these rates therefore show substantial random fluctuation over time. In this volume an adjusted rate is flagged if: a) applying the age-race-sex-specific rates of a county for a given cause to the standard population results in more than 25 percent of the total expected deaths being generated by one cell, and b) the denominator of the rate is also less than 50 (an average of 10 per year). These criteria will catch only the worst problems. Only 21 out of a total of 1900 county adjusted rates in this volume are flagged by this method.

In addition to putting asterisks by those 1984-88 adjusted rates with a large bias due to an extremely high age-race-sex-specific rate, the rates have been recomputed by substituting the appropriate North Carolina age-race-sex-cause-specific rate in the problem cell. Table C on the next page compares the flagged rates with the rates where the state rate has been substituted. The reader who must use one of these flagged rates is advised to use the rate in this table with the substitution instead. If the latter rate is clearly out of line with the North Carolina rate in the last column, the rate should be treated as missing data.

TABLE C

1984-88 Age-Race-Sex Adjusted Death Rates: Flagged Rates and Rate after Substitution of State Rate in Problem Cell

County	Cause	Problem Cell	Numerator	Denominator	Flagged Rate	Adjusted Rate With Substitution	N.C. Rate For Cause
Alleghany	Lung Cancer	NWM 55-64	1	34	68.87	50.04	51.65
Alleghany	Chronic Liver Disease	NWF 55-64	1	40	28.90	4.25	10.01
Alleghany	Septicemia	NWF 75-84	1	39	15.70	5.85	8.92
Ashe	Cancer of Colon, etc.	NWM 75-84	1	27	17.95	9.85	19.61
Ashe	Diabetes	NWF 75-84	1	24	26.21	10.34	15.92
Avery	Cancer of Colon, etc.	NWF 65-74	1	23	49.03	15.48	19.61
Avery	Chronic Liver Disease	NWM 55-64	1	48	26.52	11.85	10.01
Avery	Non-Motor-Vehicle Accidents	NWM 85+	1	0	83.10	21.45	23.58
Dare	Nephritis, etc.	NWM 85+	2	17	11.91	4.86	8.34
Graham	Pneumonia and Influenza	NWF 85+	1	5	38.92	12.38	26.98
Graham	Septicemia	NWM 65-74	1	38	21.73	7.92	8.92
Macon	Prostate Cancer	NWM 75-84	2	30	57.77	29.38	24.47
Madison	Cancer	NWM 65-74	3	25	222.40	166.24	183.64
Madison	Lung Cancer	NWF 65-74	1	35	54.74	32.75	51.65
Madison	Prostate Cancer	NWM 65-74	1	25	69.56	28.39	24.47
Madison	Diabetes	NWM 75-84	1	6	53.80	15.63	15.92
Tyrrell	Atherosclerosis	NWF 85+	1	36	3.77	0.38	8.05
Watauga	Pneumonia and Influenza	NWF 85+	1	20	21.78	15.63	26.98
Watauga	Chronic Lung Disease	NWM 75-84	1	26	25.49	17.36	28.07
Yancey	Stroke	NWF 85+	1	5	64.34	39.52	72.47
Yancey	Non-Motor-Vehicle Accidents	NWF 65-74	1	33	44.00	20.37	23.58

PROCEDURE FOR GEOGRAPHIC CLUSTERING OF COUNTIES

In all editions of this report, county rates for each leading cause of mortality have been mapped. As described in the Introduction of this volume, these maps show counties grouped together (in six groups) based on similar rates--in other words, a numerical clustering of rates. From these maps, one might imply "spatial" clustering if counties with high rates happen to be contiguous to each other. However, under this procedure there is no way to know whether this clustering is a statistically significant geographic cluster or an artifact of the SAS clustering procedure (2).

In 1980 the CHES in conjunction with the UNC Department of Biostatistics developed a new statistical procedure for detecting and characterizing spatial clusters. This procedure determines whether apparent geographic clustering of counties with high rates is statistically significant. Only a brief summary of the mechanics of the procedure is presented in this section. For a detailed description, readers should consult the appropriate reference (4) or contact the Center for Health and Environmental Statistics.

Briefly the mechanics of this procedure are as follows:

1. Counties are listed in rank order of their unadjusted or adjusted rates (highest rates first) for each cause of death.

2. For each county listed, cumulative counts are obtained of the number of counties and the number of adjacencies involved between the county and other counties with higher rates. Two counties are considered adjacent if they have a common nonsalt-water boundary. For some "pairs" of counties (in particular, counties which seem to touch only at one point on a map), it was difficult to decide whether these counties are adjacent. These "troublesome pairs of counties" in North Carolina are discussed in the paper referenced above as are the decisions made with regard to these pairs.

3. Finally, a reference table is used to obtain for the cumulative number of high-rate counties a significance level based on the number of adjacencies observed. While a few adjacencies might be expected to occur randomly, a relatively large number of adjacencies will have a low probability of random occurrence. In this report, the high-rate counties are said to cluster geographically if the probability of such random occurrence is .05 or less; maps for a given disease are included in the text only if statistically significant geographic clusters were found to exist.

This procedure can result in one or more groups of contiguous high-rate counties. For some diseases, no clusters of this type exist. For some others, one, two or more clusters exist. In the latter case, a disease may cluster with high rates in one part of the state and with other tiers or levels of high rates in other parts of the state. In this report each map shows the multi-tiers or levels via different shading schemes to represent the relative levels of the high death rates.

This method is a simple and inexpensive approach for recognizing mortality patterns of varying intensity in geographical areas and for testing for clusters.

REFERENCES FOR SECTION II

1. North Carolina Office of State Budget and Management, Management and Information Services. North Carolina Population Projections: 1988-2010, Raleigh, 1988.

2. SAS Institute Inc. SAS User's Guide: Statistics, 1982 Edition, Cluster Procedure. Cary, N.C. 1982.

3. Kleinman, J.C. "Infant Mortality," Statistical Notes for Health Planners. No. 2, National Center for Health Statistics, Rockville, Md, July, 1976.

4. Grimson, R.C.; Wank, K.C.; & Johnson, P.W.C. "Searching for Hierarchical Clusters of Diseases: Spatial Patterns of Sudden Infant Death Syndrome," Social Science Medicine, Vol. 15D, pp. 287-293, 1981.

III. GENERAL MORTALITY IN NORTH CAROLINA

GENERAL MORTALITY IN NORTH CAROLINA

During 1988 a total of 57,630 North Carolinians died. This number represents an annual death rate of 8.9 resident deaths per 1,000 population, three percent above the rate of 8.6 for 1987, and is the highest rate over the past 10 years. The 1987 rate for the United States (the most recent year for which data are available) was higher at 8.7 (1). The N.C. unadjusted rate rose in six of the last 10 years. The greatest increases occurred during the 1984-88 period, when the overall rate was five percent greater than in the preceding (1979-83) five-year period.

One confounding factor in making comparisons of mortality rates is that age structure of a population, which has an important impact on mortality, may vary among geographic areas and over time. Compared to the nation, North Carolina has a younger but more rapidly aging population. Thus, adjusting the North Carolina and United States mortality rates for age, a higher mortality rate is obtained for N.C. than for the U.S. The 1987 age-adjusted North Carolina rate (5.7) was nearly six percent higher than the age-adjusted United States rate (5.4), illustrating that N.C.'s lower unadjusted rate (in comparison to the U.S.) is due to its favorable age structure (i.e., more people at the young low-risk ages).

While the N.C. trend for unadjusted rates indicates some increase in mortality, examination of age-adjusted rates shows a different pattern. From 1979-83 to 1984-88 the risk of death for North Carolinians actually declined by five percent, from 6.0 to 5.7 per 1,000 population. Over the longer span since 1974-78, the state's age-adjusted rate declined by 15 percent.

Age, Race, and Sex Groups

Within the general comparisons of mortality noted above, significant subgroup differences are concealed, especially between N.C. and the U.S. For example, while the 1987 unadjusted U.S. rate was higher than that for North Carolina, mortality rates for infants and for age groups 1-4, 5-14, and 45-54 were each more than 10 percent greater than corresponding United States rates. In fact, only two age groups (15-24 and 85 and over) had rates lower than the U.S. rates.

As observed with age, general comparisons can mask variations by race and sex. Looking at North Carolina deaths in the 1984-88 period, the male rate (9.5) exceeded the female rate (7.7) by 23 percent. For the previous five-year period (1979-83), the male rate was 34 percent greater than the female rate; hence differences in mortality by sex have diminished over time. Differences in unadjusted death rates by race were relatively minor and have also decreased: the white and nonwhite rates were each 8.6 during the 1984-88 period, while the nonwhite rate exceeded the white rate (8.4 to 8.2) during the 1979-83 period. (2, 3) Nonwhites have a younger age structure than whites and this accounts for their similar unadjusted death rates.

These comparisons mask the exceedingly high overall mortality rate for nonwhite males. Adjusting the race-sex-specific rates for age using the 1940 U.S. population as the standard, the 1984-88 adjusted rate was lower than the unadjusted rate for each race-sex group except nonwhite males, who had a higher rate after adjustment. This finding implies that nonwhite males are dying at younger ages than any other race-sex group, a fact also revealed by the age-specific rates. With the exception of the 85+ age group (based on 1988 data), nonwhite males had the highest age-specific mortality rates of the four race-sex groups.

In each of the ten-year age groups between ages 25 and 54, the rates for nonwhite males were at least twice the rates for white males (the next highest group). However, after age 54, differences between white and nonwhite males are much smaller, and the rate for nonwhite males older than 84 is lower than that for white males.

In Sections IV through IX, important differences in risks of mortality by age, race, and sex groups will be described for each cause.

Underlying Causes of Death

A statistically complex study conducted by the CDC (4,5) shows that only 11 states ranked worse than North Carolina on a composite index based on 1986 age-adjusted mortality rates for nine causes* (i.e., stroke, coronary heart disease, cirrhosis, obstructive pulmonary disease, lung cancer, breast cancer, colorectal cancer, cervical cancer, and diabetes mellitus). These causes accounted for 52 percent of deaths nationally and in North Carolina during 1986.

Four major causes of mortality--heart disease, cerebrovascular disease, cancer, and cancer other than lung-- have exhibited interesting patterns of change in North Carolina over the past 38 years. The following figures depict cumulative percent changes in death rates for these causes as well as total mortality over seven successive time periods since 1950-59. Results are shown for four race-sex groups. The first figure represents decedents

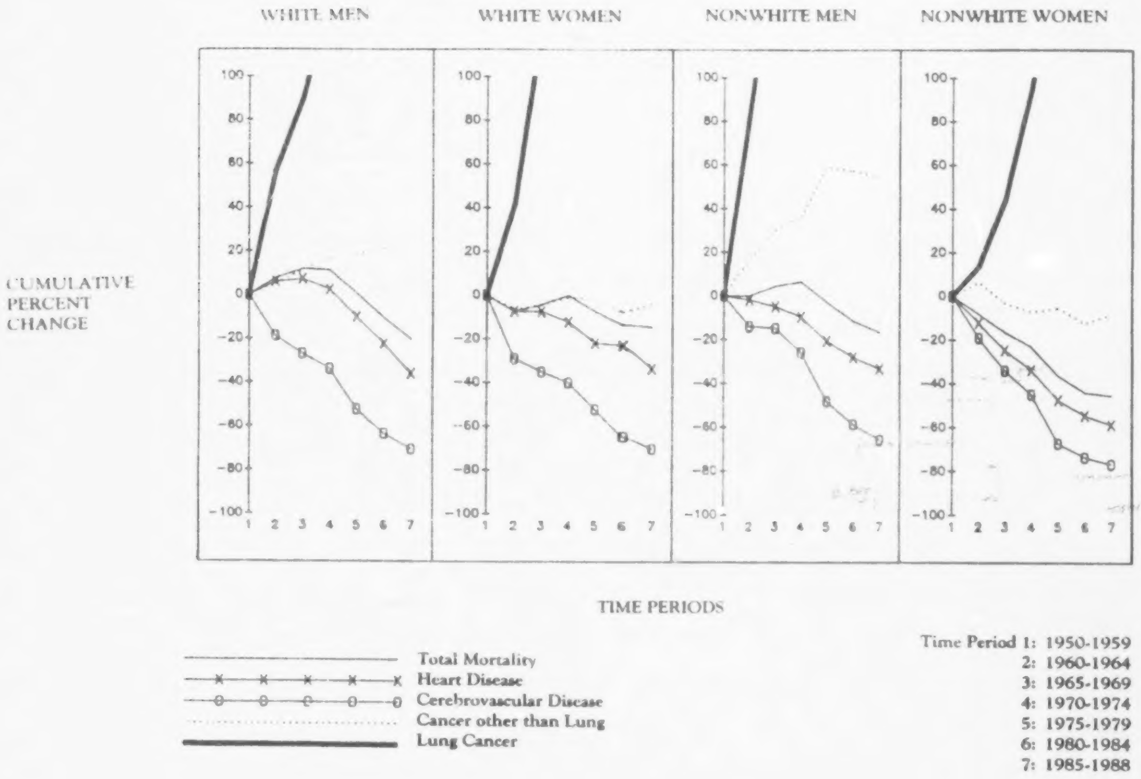
---

*Groupings of ICD codes for these diseases differ from the groupings used by CHES in this volume. These nine diseases were selected based on diversity in their mortality rates between 1979 and 1986.

45-64 years old at death. The cumulative percent increase in lung cancer rates for each race-sex group is striking: it exceeds 100 percent earliest (by the 1965-69 period) for nonwhite men and white women and latest (by the 1975-79 period) for nonwhite women. However, after the 1960-64 period, the rate of increase for nonwhite women appears to accelerate.

CUMULATIVE PERCENT CHANGE IN DEATH RATES — SELECTED CAUSES OF DEATH
BY RACE AND SEX, AGE 45-64, SINCE TIME PERIOD 1950-1959

NORTH CAROLINA



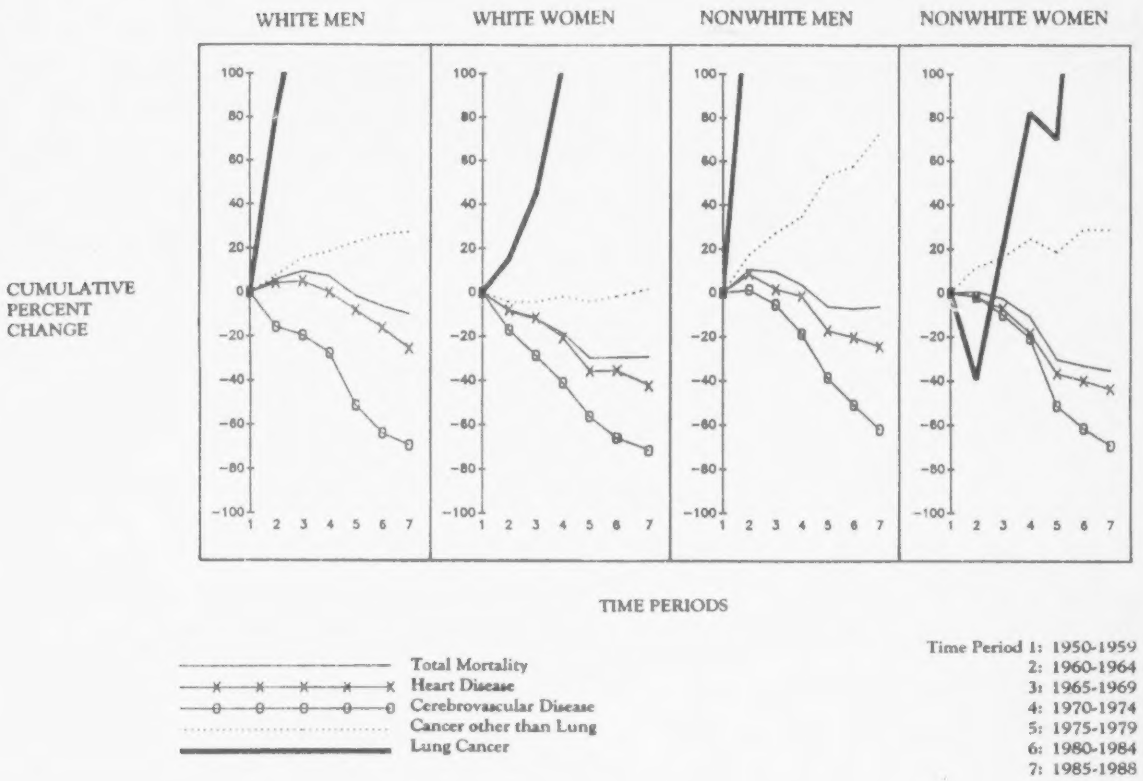
For nonwhite men, the cumulative percent change for cancer other than lung increases sharply through the 1975-79 period, after which a modest decline appears. The pattern for white men is similar, but the cumulative percent increase is smaller and the decline occurs later. Cumulative percent changes for white women are relatively small with no clear trend, while the cumulative changes for nonwhite women show a decreasing trend over most of the time intervals.

The patterns and magnitudes of changes for total mortality, heart disease, and cerebrovascular disease are essentially similar among the race-sex groups: after the 1970-74 period, all cumulative percent changes are negative, reflecting decreasing mortality rates. Total mortality for white women declined the least, while total mortality for nonwhite women showed the greatest cumulative percent decrease. The cumulative percent decrease for white men was greater than for nonwhite men.

The following figure presents the same information for decedents in the 65-74 age group. While the lung cancer rate for nonwhite women showed a slight decrease in the 1975-79 period, the cumulative percent increase still exceeded 100 percent by the 1980-84 period. For the remaining causes, the pattern and magnitude of changes in cumulative percentages are similar to the preceding figure with one notable exception: for each race-sex group except white women, the cumulative percent change for cancer other than lung is clearly positive by the 1985-88 period. Taken together, these figures show that the rates for total mortality, heart disease, and cerebrovascular disease have decreased for each race-sex group, while lung cancer rates have increased. Cumulative percent changes for cancer other than lung show clear increases for nonwhites and white males in the 65-74 age group, but only for nonwhite males in the 45-64 age group. These trends are especially noteworthy because of the relatively long time periods involved.

CUMULATIVE PERCENT CHANGE IN DEATH RATES — SELECTED CAUSES OF DEATH
BY RACE AND SEX, AGE 65-74, SINCE TIME PERIOD 1950-1959

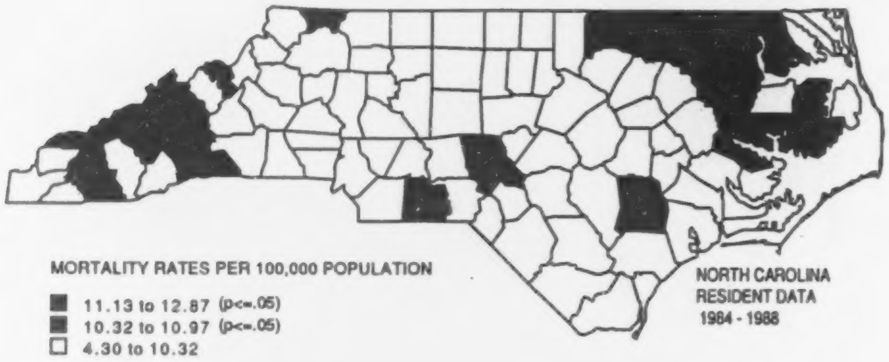
NORTH CAROLINA



GEOGRAPHIC PATTERNS

The 1984-88 unadjusted total mortality rates for counties (Figure 2.A) ranged from 4.3 in Onslow County to 12.9 in Swain County, with a state rate of 8.9 per 1,000 population. Figure 2.A shows several scattered groups of high-rate counties, with the northeast seemingly having the largest cluster. In some cases, these high rates reflect unfavorable mortality conditions other than age, race, and sex, since among the 33 counties in the two highest rate levels (Figure 2.A), 16 were in the top three levels after adjustment for age, race, and sex (Figure 2.B). In addition, Figure 2.B shows a large band of contiguous, high-rate counties extending from Virginia to South Carolina in the eastern third of North Carolina.

Based on procedures described in Section II of this volume, the clustering of 13 northeastern counties with high unadjusted death rates was found to be statistically significant (see map below). In fact, eight of the ten highest-rate counties are in the northeastern cluster. A smaller cluster of seven counties appears in the southwest. Together, these clusters include 20 of the 25 counties with the highest mortality rates in the 1984-88 period.



GENERAL MORTALITY

MORTALITY RATES PER 100,000 POPULATION
■ 11.13 to 12.87 (p<=.05)
■ 10.32 to 10.97 (p<=.05)
☐ 4.30 to 10.32
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

The cluster of high adjusted rates forming a north-south band of 19 eastern counties was also found to be statistically significant (see next map). Unlike the unadjusted rates, only a single two-county adjacency appears in the west. Thus, eastern North Carolina is experiencing high levels of mortality that cannot be explained on the basis of age, race, and sex factors. In this case, high mortality may be due to socioeconomic and health resource factors, or to some other set of local conditions that invite intervention. A similar north-south cluster appeared in the 1981 version of this volume (6); hence this grouping of counties with high rates of total mortality persists.

The cause-specific data in the sections to follow will aid counties in identifying their particular kinds of mortality proneness.

GENERAL MORTALITY

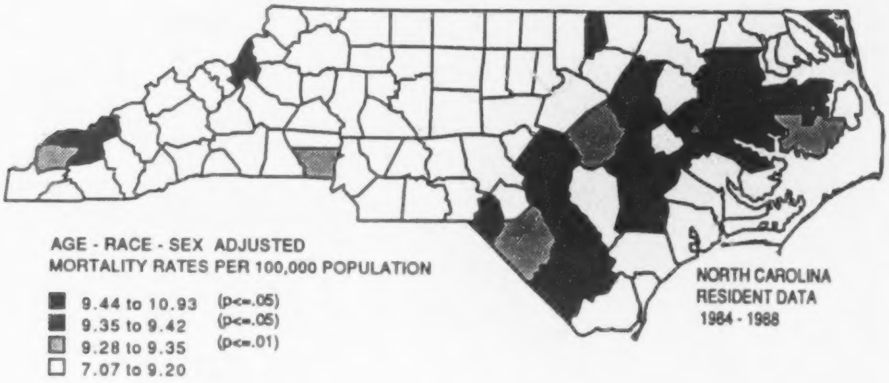

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 9.44 to 10.93 (p<=.05)
■ 9.35 to 9.42 (p<=.05)
▨ 9.28 to 9.35 (p<=.01)
☐ 7.07 to 9.20
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

TABLE - 2

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

TOTAL DEATHS (PER 1000 POPULATION)

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	57630	8.88	271583	8.58	8.58
REGIONS					
DHR I WESTERN	20286	9.12	94940	8.76	8.41
DHR II N. CENTRAL	12431	9.11	59186	8.87	8.45
DHR III S. CENTRAL	12197	7.95	57264	7.71	8.71
DHR IV EASTERN	12716	9.29	60193	8.97	9.06
HSA I WESTERN	10693	9.75	50092	9.29	8.32
HSA II PIEDMONT	10746	8.94	51180	8.69	8.45
HSA III S. PIEDMONT	9593	8.50	44848	8.23	8.47
HSA IV CAPITAL	7532	7.76	35808	7.73	8.32
HSA V CARDINAL	8630	8.86	40202	8.41	9.13
HSA VI EASTERN	10436	9.31	49453	8.97	9.09
COUNTIES					
1 ALAMANCE	1057	9.98	4904	9.47	8.24
2 ALEXANDER	204	7.40	951	7.06	7.82
3 ALLEGHANY	97	9.87	516	10.56	8.12
4 ANSON	308	11.73	1362	10.38	8.58
5 ASHE	253	10.77	1163	9.96	8.81
6 AVERY	156	10.22	651	8.63	10.93
7 BEAUFORT	510	12.01	2356	11.13	9.78
8 BERTIE	249	11.83	1229	11.59	9.56
9 BLADEN	350	11.31	1523	9.88	9.39
10 BRUNSWICK	421	8.26	1964	8.27	8.19
11 BUNCOMBE	1846	10.65	8764	10.32	8.49
12 BURKE	689	8.91	3077	8.09	8.61
13 CABARRUS	902	9.40	4256	9.10	8.56
14 CALDWELL	621	8.69	2818	8.01	8.78
15 CAMDEN	62	10.23	289	9.78	8.90
16 CARTERET	484	9.48	2233	9.06	8.92
17 CASWELL	185	8.33	927	8.33	7.99
18 CATAWBA	953	8.12	4636	8.12	8.59
19 CHATHAM	361	9.82	1646	9.17	8.11
20 CHEROKEE	208	9.81	1006	9.79	7.31
21 CHOWAN	153	11.17	799	11.97	9.02
22 CLAY	71	9.76	368	10.29	7.61
23 CLEVELAND	844	9.68	3976	9.24	8.81
24 COLUMBUS	576	10.95	2644	10.10	9.54
25 CRAVEN	597	7.31	2733	6.84	8.61
26 CUMBERLAND	1562	6.13	7437	5.83	9.99
27 CURRITUCK	153	10.93	668	9.97	9.99
28 DARE	171	7.96	761	8.12	7.83
29 DAVIDSON	963	7.74	4868	8.02	8.44
30 DAVIE	250	8.97	1152	8.54	9.12
31 DUPLIN	466	11.18	2198	10.56	9.35
32 DURHAM	1480	8.63	7109	8.59	8.49
33 EDGECOMBE	630	10.51	2879	9.77	9.12
34 FORSYTH	2402	9.01	11376	8.71	8.38
35 FRANKLIN	351	9.90	1623	9.59	7.92
36 GASTON	1640	9.41	7677	8.93	9.33
37 GATES	118	12.05	544	11.41	8.87
38 GRAHAM	72	10.26	353	9.89	9.35
39 GRANVILLE	376	9.64	1849	9.85	8.77
40 GREENE	132	8.05	686	8.32	8.66
41 GUILFORD	2976	8.83	14214	8.60	8.41

* SEE SECTION II ; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
TOTAL DEATHS(PER 1000 POPULATION) CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	635	11.17	3045	10.81	8.73
43 HARNETT	640	9.65	2909	9.07	9.75
44 HAYWOOD	534	11.06	2528	10.51	8.50
45 HENDERSON	840	12.12	3636	10.86	7.79
46 HERTFORD	257	10.85	1295	10.85	8.40
47 HOKE	172	7.17	750	6.48	7.98
48 HYDE	59	10.39	328	11.21	9.28
49 IREDELL	860	9.38	4018	9.05	8.46
50 JACKSON	218	8.05	1081	8.03	7.81
51 JOHNSTON	781	9.68	3656	9.37	9.30
52 JONES	97	9.85	478	9.69	8.26
53 LEE	360	8.58	1818	8.89	9.13
54 LENOIR	618	10.24	3037	10.05	9.41
55 LINCOLN	380	7.82	1817	7.82	8.51
56 MCDOWELL	398	10.95	1680	9.26	8.65
57 MACON	270	11.53	1257	10.87	8.82
58 MADISON	198	11.49	895	10.37	8.69
59 MARTIN	293	11.09	1410	10.63	9.44
60 MECKLENBURG	3564	7.48	16573	7.30	8.16
61 MITCHELL	164	11.15	794	10.92	7.11
62 MONTGOMERY	246	10.26	1137	9.49	8.47
63 MOORE	711	11.98	3093	10.96	8.58
64 NASH	684	9.40	3415	9.56	9.39
65 NEW HANOVER	1021	8.69	4938	8.65	9.07
66 NORTHAMPTON	273	12.34	1296	11.56	9.03
67 ONSLOW	530	4.22	2661	4.30	8.43
68 ORANGE	507	5.72	2462	5.82	7.54
69 PAMLICO	117	10.65	558	10.22	8.26
70 PASQUOTANK	321	10.46	1440	9.60	8.54
71 PENDER	262	9.67	1194	9.40	8.35
72 PERQUIMANS	147	13.32	569	10.83	7.80
73 PERSON	299	9.51	1398	9.11	8.20
74 PITT	812	7.95	3969	8.08	9.37
75 POLK	196	13.31	927	12.74	7.98
76 RANDOLPH	846	8.23	3813	7.68	8.32
77 RICHMOND	479	10.44	2310	10.11	9.18
78 ROBESON	1008	9.33	4768	8.94	9.31
79 ROCKINGHAM	848	9.80	4153	9.69	9.14
80 ROWAN	1099	10.31	5278	10.13	8.37
81 RUTHERFORD	594	10.27	2874	10.05	8.38
82 SAMPSON	549	10.78	2606	10.31	9.20
83 SCOTLAND	323	9.30	1567	9.21	10.30
84 STANLY	529	10.36	2392	9.50	8.55
85 STOKES	289	7.92	1399	7.82	8.52
86 SURRY	652	10.49	2975	9.70	8.65
87 SWAIN	158	15.02	685	12.87	10.03
88 TRANSYLVANIA	237	9.04	1103	8.59	7.66
89 TYRRELL	49	11.96	236	11.48	9.82
90 UNION	619	7.36	2837	7.08	8.33
91 VANCE	440	11.20	2082	10.76	9.42
92 WAKE	2358	6.06	11111	6.10	8.02
93 WARREN	219	13.17	1054	12.78	9.18
94 WASHINGTON	155	10.58	694	9.53	9.59
95 WATAUGA	242	6.97	1095	6.38	7.06
96 WAYNE	965	9.78	4437	9.03	9.92
97 WILKES	505	8.22	2570	8.43	8.67
98 WILSON	699	10.65	3210	9.89	9.86
99 YADKIN	278	9.16	1399	9.42	7.95
100 YANCEY	125	7.80	688	8.72	7.47

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

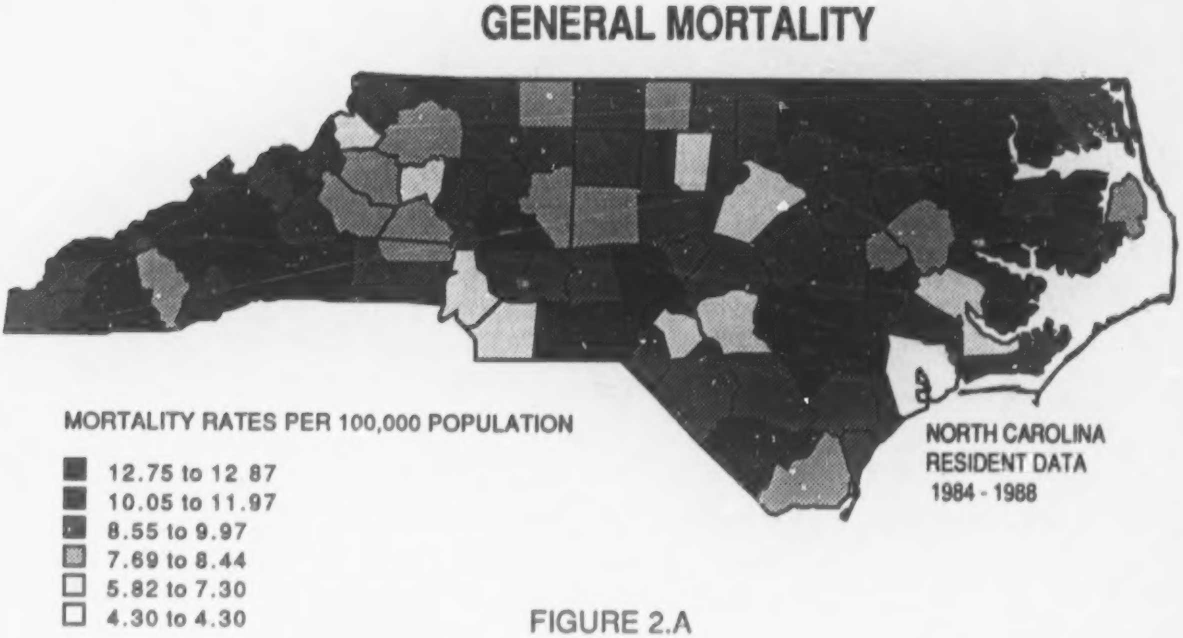

GENERAL MORTALITY
MORTALITY RATES PER 100,000 POPULATION
12.75 to 12 87
10.05 to 11.97
8.55 to 9.97
7.69 to 8.44
5.82 to 7.30
4.30 to 4.30
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 2.A

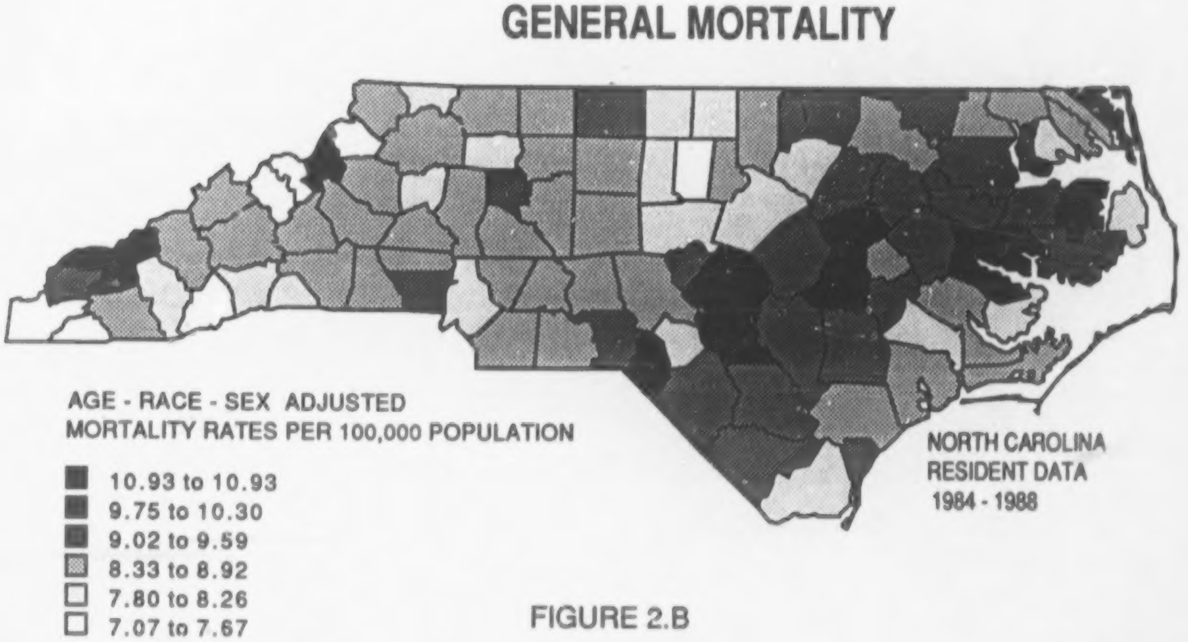

GENERAL MORTALITY
AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
10.93 to 10.93
9.75 to 10.30
9.02 to 9.59
8.33 to 8.92
7.80 to 8.26
7.07 to 7.67
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 2.B

REFERENCES FOR SECTION III

1. U.S. Department of Health and Human Services. Public Health Service, Centers for Disease Control, National Center for Health Statistics. Vital Statistics of the United States, Volume II-Mortality (Part A). Washington, 1987.

2. N.C. Department of Environment, Health, and Natural Resources, Center for Health and Environmental Statistics. North Carolina Vital Statistics 1988, Volume 1: Births, Deaths, Population, Marriages, Divorces. Raleigh, November 1989.

3. North Carolina Department of Human Resources, State Center for Health Statistics. North Carolina Vital Statistics 1983, Volume 1: Births, Deaths, Population, Marriages, Divorces. Raleigh, March 1983.

4. Thacker. S.B.; Koplan, J.P.; Letter to State Epidemiologists and Chronic Disease Program Directors. Centers for Disease Control, Atlanta, GA, November 1989.

5. "Chronic Disease Reports: Mortality Trends - United States, 1979-1986." Morbidity and Mortality Weekly Report, Massachusetts Medical Society, Waltham, MA, March 31, 1989.

6. North Carolina Department of Human Resources, State Center for Health Statistics. Leading Causes of Mortality: North Carolina Vital Statistics, Volume 2, 1981. Raleigh, September 1983.

IV. MAJOR CARDIOVASCULAR DISEASE MORTALITY

HEART DISEASE

Nearly 34 percent of deaths among North Carolina residents in 1988 resulted from heart disease, which has been the leading cause of death for the state and the nation for more than 50 years (1). Heart disease ranks second behind cancer in potential years of life lost by all North Carolinians. It ranks first among nonwhite females.

Diseases of the heart accounted for 19,421 North Carolina deaths in 1988, a rate of 299.4 per 100,000 population. While the 1987 rate for the United States was higher at 312.4, North Carolina's 1987 age-adjusted rate was 6.2 percent higher than the nation's (2). In 1986, N.C.'s age-adjusted coronary heart disease death rate was the tenth highest among the 50 states (3).

The risk of death from heart disease has declined in North Carolina, with the 1984-88 age-adjusted rate representing an 11 percent decrease since 1979-83. The largest decrease was among white males for whom the 1984-88 age-adjusted rate was down about 15 percent. Age-adjusted rates for the other race-sex groups also declined, for white females by 9 percent and for each of nonwhite males and females by 4 percent.

RISK FACTORS

A number of alterable risk factors for heart disease exist. Among these are smoking, hypertension, elevated cholesterol, obesity, and sedentary lifestyle (3). Cigarette smoking is the single factor responsible for the most preventable deaths in our society, the largest numbers of those excess deaths being due to coronary heart disease, lung cancer, and chronic obstructive lung disease (4).

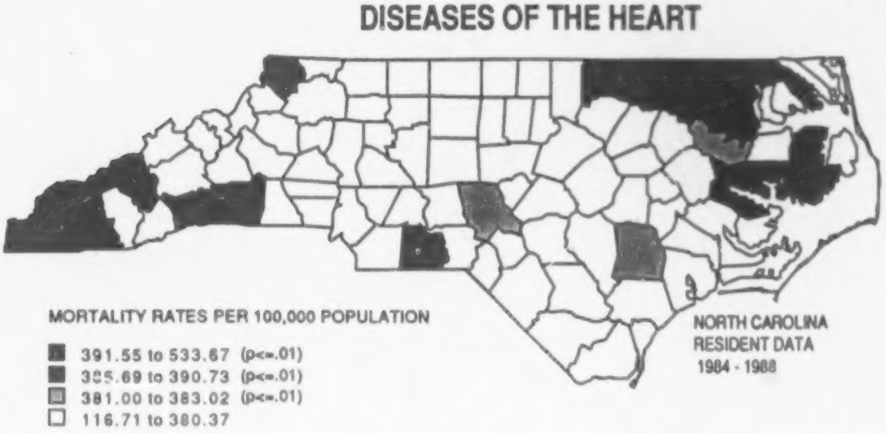
The smoking behavior of the U.S. population has changed dramatically, from 52 percent of men and 34 percent of women in 1965 to 33 percent of men and 28 percent of women in 1985. In 1985, however, the North Carolina age-adjusted percentage of current smokers among men ranked in the top quartile among the 50 states. North Carolina women did better, ranking in the second lowest quartile. (4)

North Carolina's decrease in heart disease death rates is consistent with a decline nationwide. Possible reasons for the decline include smoking cessation, increased control of hypertension, dietary changes, reduced serum cholesterol levels, and improvements in medical care (4). In recent years, the ability of aspirin to prevent the occurrence or recurrence of vaso-occlusion has been studied extensively. Taken together, the results of these studies are highly suggestive of a beneficial effect of aspirin. (5)

GEOGRAPHIC PATTERNS

Unadjusted and age-race-sex-adjusted heart disease death rates for 1984-88 are depicted in Figures 3.A and 3.B respectively. After adjustment, a number of contiguous high-rate counties are found to exist, almost exclusively in the east.

Based on the procedures described in Section II of this report, the following map reveals that, of the 25 counties with the highest unadjusted death rates, statistically significant geographic clusters exist in the east-northeast and in the west-southwest.


DISEASES OF THE HEART
MORTALITY RATES PER 100,000 POPULATION
■ 391.55 to 533.67 (p<=.01)
■ 385.69 to 390.73 (p<=.01)
▨ 381.00 to 383.02 (p<=.01)
☐ 116.71 to 380.37
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

After adjustment for age, race, and sex, clusters of high-rate counties are no longer statistically significant. The interpretation here is that no significant clusters of counties are experiencing higher levels of heart disease mortality than can be explained on the basis of age, race, and sex. This is in sharp contrast to a significant spatial grouping of 15 counties observed in 1979-81 (6).

TABLE-3

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

DISEASES OF THE HEART

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	19421	299.36	96235	304.14	304.14
REGIONS					
DHR I WESTERN	6984	314.09	34481	318.19	298.08
DHR II N. CENTRAL	4206	308.51	21075	315.95	297.75
DHR III S. CENTRAL	4010	261.61	19573	263.57	307.39
DHR IV EASTERN	4221	308.60	21106	314.62	324.75
HSA I WESTERN	3732	340.62	18544	343.93	293.51
HSA II PIEDMONT	3581	298.02	18111	307.78	295.51
HSA III S. PIEDMONT	3252	288.31	15937	292.71	300.20
HSA IV CAPITAL	2490	256.82	12257	264.69	291.08
HSA V CARDINAL	2885	296.49	13996	292.91	327.36
HSA VI EASTERN	3481	310.87	17390	315.51	328.25
COUNTIES					
1 ALAMANCE	359	338.98	1751	338.32	286.83
2 ALEXANDER	86	312.01	378	280.87	304.87
3 ALLEGHANY	26	264.79	167	341.82	256.12
4 ANSON	113	430.65	540	411.76	327.24
5 ASHE	93	395.94	456	390.69	259.93
6 AVERY	60	393.33	262	347.57	446.96
7 BEAUFORT	165	388.85	869	410.65	361.73
8 BERTIE	88	418.29	440	415.08	357.72
9 BLADEN	115	371.78	550	356.89	353.03
10 BRUNSWICK	151	296.33	698	293.92	293.84
11 BUNCOMBE	562	324.48	2967	349.42	274.73
12 BURKE	228	294.91	1209	317.99	336.50
13 CABARRUS	323	336.66	1502	321.36	293.72
14 CALDWELL	206	288.31	1030	292.99	316.04
15 CAMDEN	19	313.68	94	318.24	279.43
16 CARTERET	159	311.53	837	339.78	326.93
17 CASWELL	65	292.88	324	291.32	288.06
18 CATAWBA	331	282.06	1753	307.22	318.05
19 CHATHAM	127	345.70	598	333.27	291.70
20 CHEROKEE	78	368.16	400	389.64	249.71
21 CHOWAN	45	328.58	253	379.14	282.37
22 CLAY	27	371.18	140	391.55	291.26
23 CLEVELAND	316	362.73	1559	362.34	339.09
24 COLUMBUS	189	359.57	995	380.37	358.36
25 CRAVEN	206	252.48	915	229.11	304.08
26 CUMBERLAND	521	204.62	2446	191.94	376.47
27 CURRITUCK	45	321.72	237	353.88	357.72
28 DARE	49	228.33	245	261.60	250.92
29 DAVIDSON	340	273.54	1799	296.60	307.52
30 DAVIE	80	287.29	417	309.41	323.72
31 DUPLIN	164	393.72	795	382.11	340.67
32 DURHAM	447	260.66	2287	276.49	279.07
33 EDGECOMBE	188	313.92	955	324.17	319.13
34 FORSYTH	778	292.09	3941	302.08	288.40
35 FRANKLIN	121	341.37	627	370.73	303.74
36 GASTON	606	347.88	3031	352.68	367.63
37 GATES	44	449.43	184	386.19	289.41
38 GRAHAM	28	399.03	138	386.93	396.55
39 GRANVILLE	141	361.77	674	359.11	327.19
40 GREENE	44	268.52	256	310.57	350.67
41 GUILFORD	915	271.64	4791	290.11	282.42

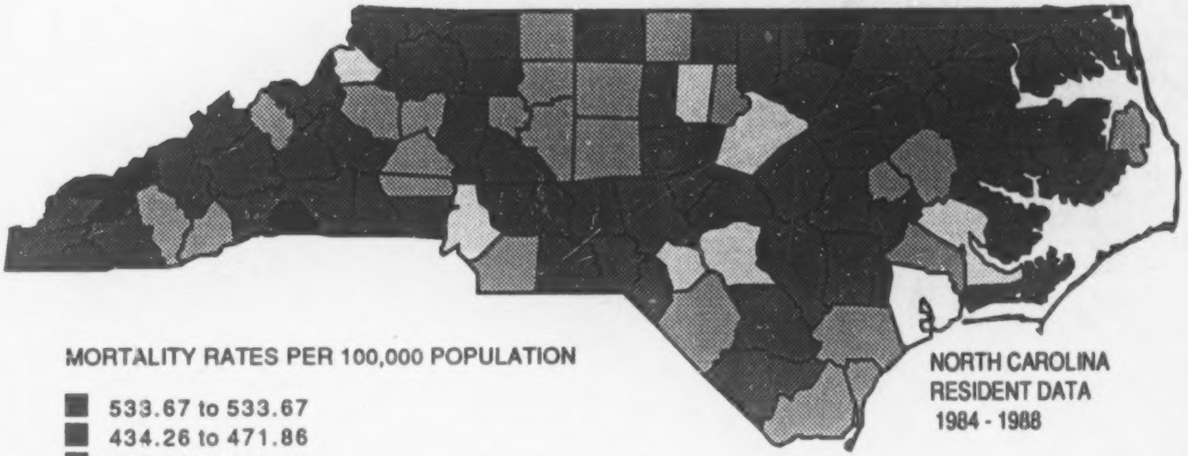
* SEE SECTION II; RATES BASED ON SMALL NUMBERES MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
DISEASES OF THE HEART CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	217	381.77	1137	403.98	335.80
43 HARNETT	201	303.23	1030	321.41	350.06
44 HAYWOOD	185	383.26	988	411.05	325.72
45 HENDERSON	298	430.27	1296	387.19	252.85
46 HERTFORD	89	376.01	468	392.44	307.12
47 HOKE	54	225.25	260	224.82	294.19
48 HYDE	19	334.68	115	393.22	320.90
49 IREDELL	311	339.54	1457	328.28	301.47
50 JACKSON	69	255.08	406	301.93	284.54
51 JOHNSTON	283	350.83	1440	369.11	365.99
52 JONES	32	324.97	153	310.31	269.50
53 LEE	125	298.05	679	332.31	342.48
54 LENOIR	240	398.05	1145	378.99	360.00
55 LINCOLN	150	308.71	670	288.69	310.76
56 MCDOWELL	137	376.97	638	351.70	306.76
57 MACON	87	371.73	457	395.53	279.53
58 MADISON	70	406.22	312	361.81	251.25
59 MARTIN	96	363.40	505	380.99	356.36
60 MECKLENBURG	1099	230.86	5440	239.73	274.74
61 MITCHELL	61	414.99	266	365.90	210.17
62 MONTGOMERY	84	347.52	401	334.88	293.15
63 MOORE	244	411.34	1080	383.01	286.01
64 NASH	240	329.94	1237	346.30	343.90
65 NEW HANOVER	326	277.64	1638	286.96	302.66
66 NORTHAMPTON	86	388.99	447	398.95	324.76
67 ONSLOW	131	104.37	722	116.71	264.49
68 ORANGE	157	177.43	740	175.10	232.96
69 PAMLICO	40	364.29	189	346.24	269.09
70 PASQUOTANK	124	404.23	586	390.73	344.64
71 PENDER	74	273.24	385	303.37	267.52
72 PERQUIMANS	39	353.48	187	356.13	247.96
73 PERSON	116	369.16	531	346.26	307.63
74 PITT	236	231.35	1351	275.18	336.18
75 POLK	77	523.02	327	449.71	262.35
76 RANDOLPH	292	284.17	1388	279.80	292.73
77 RICHMOND	173	377.23	799	349.87	315.37
78 ROBESON	333	308.28	1656	310.69	334.02
79 ROCKINGHAM	310	358.45	1538	359.14	335.01
80 ROWAN	369	346.42	1865	358.19	287.02
81 RUTHERFORD	236	408.23	1102	385.68	305.91
82 SAMPSON	198	369.05	954	377.69	337.25
83 SCOTLAND	109	314.10	564	331.68	386.06
84 STANLY	176	344.79	894	355.12	305.01
85 STOKES	119	326.14	541	302.73	339.33
86 SURRY	226	363.87	1107	360.99	300.22
87 SWAIN	65	617.98	284	533.67	377.41
88 TRANSYLVANIA	78	297.84	372	289.90	244.83
89 TYRRELL	17	415.14	97	471.85	385.41
90 UNION	218	259.50	1078	269.28	320.34
91 VANCE	175	445.61	774	400.17	353.16
92 WAKE	726	186.87	3549	194.88	266.92
93 WARREN	72	433.08	358	434.26	321.71
94 WASHINGTON	60	409.86	239	328.46	335.86
95 WATAUGA	90	259.57	422	245.88	278.12
96 WAYNE	367	372.11	1655	336.91	385.41
97 WILKES	195	317.45	985	323.38	325.08
98 WILSON	232	353.75	1077	332.03	337.32
99 YADKIN	97	319.89	514	346.09	284.15
100 YANCEY	43	268.56	230	291.62	229.91

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

DISEASES OF THE HEART



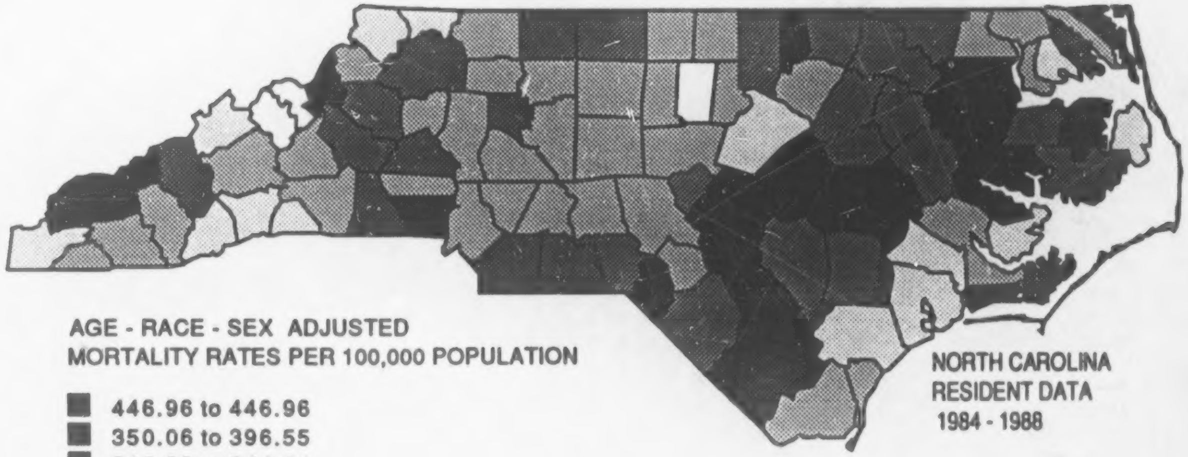
MORTALITY RATES PER 100,000 POPULATION

- ■ 533.67 to 533.67
- ■ 434.26 to 471.86
- ■ 317.99 to 415.08
- ▨ 261.60 to 310.69
- □ 175.11 to 245.89
- □ 116.71 to 116.71

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 3.A

DISEASES OF THE HEART



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

- ■ 446.96 to 446.96
- ■ 350.06 to 396.55
- ■ 315.38 to 344.64
- ▨ 274.73 to 310.77
- □ 244.84 to 269.50
- □ 210.17 to 232.97

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 3.B

CEREBROVASCULAR DISEASE

Cerebrovascular disease, or stroke, claimed the lives of 4,780 North Carolinians during 1988. It was the third leading cause of death in North Carolina with an overall rate of 73.7 deaths per 100,000 population. The North Carolina unadjusted rate was 15 percent higher than the 1987 U.S. rate, and the state's 1987 age-adjusted rate was 24 percent higher than the nation's (2). In 1986, North Carolina's age-adjusted stroke death rate was the third highest in the nation, exceeded only by rates for South Carolina and Georgia (7).

The state's age-adjusted cerebrovascular mortality rate dropped a dramatic 19 percent between 1979-83 and 1984-88. By race and sex, the reductions ranged from 14 percent for nonwhite females to 21 percent for white males. The age-adjusted rates for nonwhite males and females remain considerably higher than those for whites.

RISK FACTORS

The risk factors associated with cerebrovascular disease are essentially the same as those for heart disease: hypertension, diabetes, cardiac impairment, elevated blood lipids, obesity, and cigarette smoking. The large racial differential is at least partially explained by the higher prevalence of hypertension and diabetes among the black population. (4)

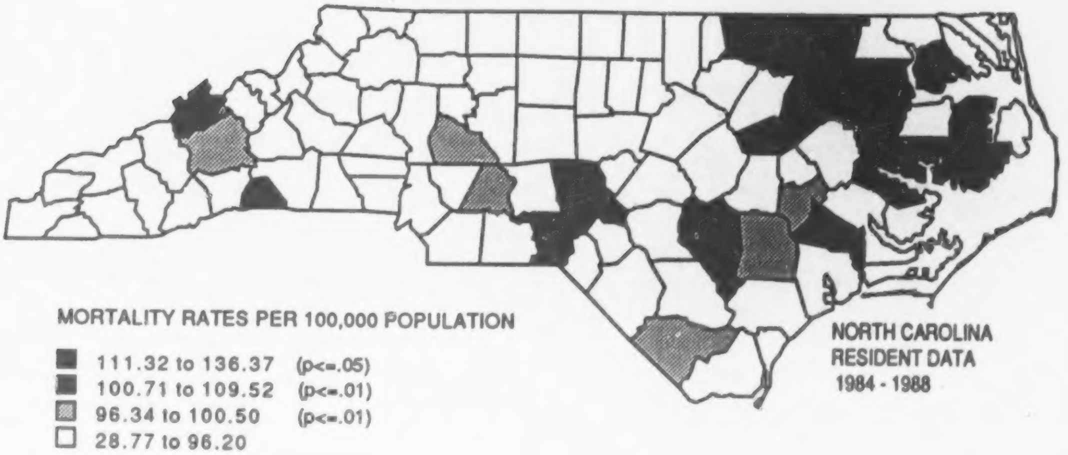
In addition to lifestyle changes, other factors possibly associated with reduced cerebrovascular and other cardiovascular mortality are improved patient and physician education and increased availability of medical services including rescue squads, coronary care units, and physician supply (8). Improvements in hypertension detection and control have probably contributed to the observed declines (4). There is convincing evidence from several studies for the efficacy of aspirin in the prevention of stroke (5).

GEOGRAPHIC PATTERNS

Figure 4.A shows a scattering of counties with relatively high unadjusted rates and several pockets of high-rate counties, primarily in the east. After adjusting for age, race, and sex (Figure 4.B), even more counties appear in the high-rate groups, and nearly all are contiguous to other high-rate counties.

Based on procedures described in Section II, the eastern pockets of high unadjusted county rates were found to cluster significantly (see first map on next page). Spatial clustering continues to prevail in the east after adjusting for age, race, and sex (see second map on next page). Thus, it is clear that some eastern North Carolina counties are experiencing inordinately high cerebrovascular mortality that cannot be explained by age, race, and sex factors. Both the unadjusted and adjusted cerebrovascular death rates of 1979-81 exhibited similar clustering properties (6).

CEREBROVASCULAR DISEASE

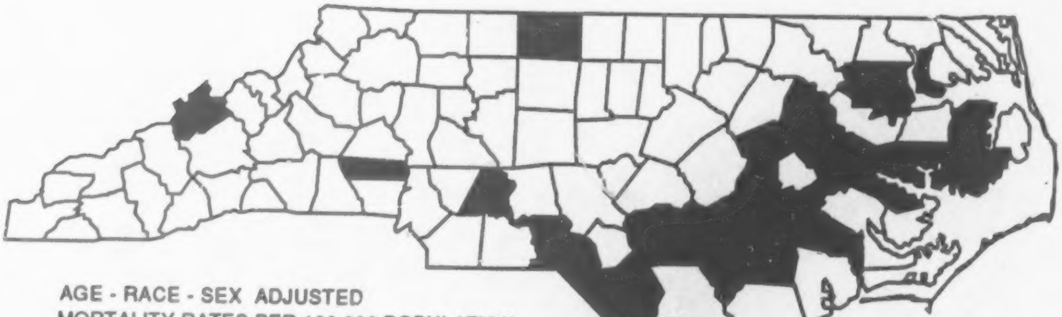


MORTALITY RATES PER 100,000 POPULATION

- ■ 111.32 to 136.37 (p<=.05)
- ■ 100.71 to 109.52 (p<=.01)
- ▨ 96.34 to 100.50 (p<=.01)
- ☐ 28.77 to 96.20

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

CEREBROVASCULAR DISEASE



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

- ■ 84.57 to 105.88 (p<=.05)
- ☐ 33.47 to 84.37

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

TABLE-4

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CEREBROVASCULAR

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	4780	73.68	22931	72.47	72.47
REGIONS					
DHR I WESTERN	1623	72.99	7763	71.63	68.97
DHR II N. CENTRAL	1034	75.84	5045	75.63	71.13
DHR III S. CENTRAL	962	62.76	4706	63.37	73.34
DHR IV EASTERN	1161	84.38	5417	80.74	80.94
HSA I WESTERN	860	78.49	3986	73.92	65.92
HSA II PIEDMONT	900	74.90	4367	74.21	71.34
HSA III S. PIEDMONT	763	67.64	3777	69.37	72.33
HSA IV CAPITAL	577	59.51	2796	60.38	65.13
HSA V CARDINAL	754	77.49	3611	75.57	84.06
HSA VI EASTERN	926	82.69	4394	79.72	79.47
COUNTIES					
1 ALAMANCE	67	63.26	376	72.65	62.48
2 ALEXANDER	13	47.16	57	42.35	42.51
3 ALLEGHANY	12	122.21	47	96.20	69.52
4 ANSON	30	114.33	110	83.87	65.60
5 ASHE	22	93.66	82	70.25	58.94
6 AVERY	10	65.55	35	46.43	36.97
7 BEAUFORT	40	94.26	218	103.01	89.04
8 BERTIE	25	118.83	118	111.31	89.31
9 BLADEN	26	84.05	130	84.35	77.23
10 BRUNSWICK	29	56.91	132	55.58	57.81
11 BUNCOMBE	170	98.15	818	96.33	76.44
12 BURKE	49	63.38	203	53.39	56.38
13 CABARRUS	72	75.04	360	77.02	74.10
14 CALDWELL	49	68.57	195	55.47	59.82
15 CAMDEN	5	82.54	21	71.09	64.11
16 CARTERET	37	72.49	151	61.30	68.40
17 CASWELL	15	67.58	83	74.63	71.28
18 CATAWBA	61	51.98	346	60.63	68.26
19 CHATHAM	35	95.27	133	74.12	62.74
20 CHEROKEE	16	75.52	82	79.87	57.99
21 CHOWAN	12	87.62	91	136.37	92.42
22 CLAY	9	123.72	25	69.92	43.59
23 CLEVELAND	59	67.72	288	66.93	64.71
24 COLUMBUS	76	144.59	255	97.48	94.57
25 CRAVEN	52	63.73	223	55.83	74.58
26 CUMBERLAND	97	38.09	573	44.96	92.94
27 CURRITUCK	12	85.79	47	70.18	71.45
28 DARE	19	88.53	53	56.59	55.56
29 DAVIDSON	64	51.48	359	59.18	65.60
30 DAVIE	18	64.64	86	63.81	73.61
31 DUPLIN	48	115.23	209	100.45	84.57
32 DURHAM	124	72.31	516	62.38	58.91
33 EDGECOMBE	70	116.88	310	105.22	95.75
34 FORSYTH	215	80.71	915	70.13	65.64
35 FRANKLIN	38	107.20	142	83.96	66.72
36 GASTON	136	78.07	659	76.68	80.18
37 GATES	9	91.93	29	60.86	45.53
38 GRAHAM	5	71.25	18	50.46	33.47
39 GRANVILLE	33	84.66	164	87.38	72.71
40 GREENE	7	42.71	58	70.36	68.96
41 GUILFORD	272	80.75	1313	79.50	75.56

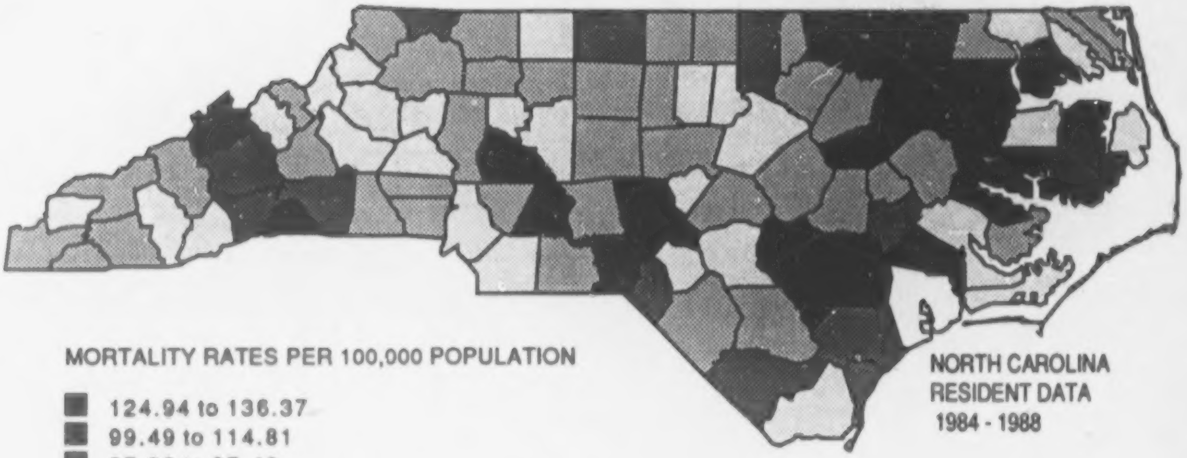
* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CEREBROVASCULAR CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	65	114.35	288	102.32	77.45
43 HARNETT	47	70.90	217	67.71	74.22
44 HAYWOOD	41	84.94	188	78.21	66.71
45 HENDERSON	80	115.51	319	95.30	59.08
46 HERTFORD	25	105.62	96	80.50	58.20
47 HOKE	14	58.39	53	45.83	52.30
48 HYDE	8	140.91	39	133.35	97.73
49 IREDELL	78	85.16	364	82.01	75.81
50 JACKSON	15	55.45	70	52.05	45.34
51 JOHNSTON	55	68.18	276	70.74	71.25
52 JONES	8	81.24	54	109.52	86.99
53 LEE	24	57.22	116	56.77	58.44
54 LENOIR	57	94.53	292	96.65	88.09
55 LINCOLN	37	76.14	179	77.12	84.97
56 MCDOWELL	37	101.81	150	82.68	84.36
57 MACON	13	55.54	84	72.70	52.73
58 MADISON	23	133.47	99	114.80	101.34
59 MARTIN	22	83.27	141	106.37	82.95
60 MECKLENBURG	238	49.99	1252	55.17	63.24
61 MITCHELL	11	74.83	60	82.53	46.34
62 MONTGOMERY	19	78.60	100	83.51	71.46
63 MOORE	66	111.26	295	104.62	79.92
64 NASH	62	85.23	298	83.42	81.36
65 NEW HANOVER	108	91.97	523	91.62	96.82
66 NORTHAMPTON	28	126.65	128	114.24	75.51
67 ONSLOW	36	28.68	178	28.77	69.68
68 ORANGE	30	33.90	192	45.43	59.90
69 PAMLICO	9	81.96	42	76.94	61.00
70 PASQUOTANK	21	68.45	91	60.67	52.71
71 PENDER	22	81.23	113	89.04	80.38
72 PERQUIMANS	18	163.14	54	102.84	67.51
73 PERSON	15	47.73	130	84.77	75.94
74 PITT	81	79.40	366	74.54	84.87
75 POLK	6	40.75	79	108.64	60.00
76 RANDOLPH	69	67.15	377	75.99	83.32
77 RICHMOND	38	82.86	230	100.71	88.92
78 ROBESON	90	83.32	447	83.86	87.50
79 ROCKINGHAM	87	100.59	401	93.63	88.17
80 ROWAN	117	109.84	518	99.48	79.31
81 RUTHERFORD	47	81.30	269	94.14	76.27
82 SAMPSON	57	112.00	276	109.26	94.40
83 SCOTLAND	35	100.85	157	92.32	105.87
84 STANLY	49	95.99	253	100.50	93.79
85 STOKES	24	65.77	111	62.11	69.23
86 SURRY	45	72.45	230	75.00	69.25
87 SWAIN	10	95.07	42	78.92	60.19
88 TRANSYLVANIA	21	80.18	82	63.90	46.67
89 TYRRELL	5	122.10	23	111.88	100.86
90 UNION	36	42.85	192	47.96	59.02
91 VANCE	26	66.20	139	71.86	52.96
92 WAKE	175	45.04	885	48.59	67.99
93 WARREN	22	132.33	103	124.94	63.36
94 WASHINGTON	11	75.14	44	60.47	71.55
95 WATAUGA	20	57.68	82	47.77	51.21
96 WAYNE	64	64.89	397	80.81	86.93
97 WILKES	49	79.77	216	70.91	79.73
98 WILSON	70	106.73	335	103.28	102.43
99 YADKIN	24	79.15	116	78.10	65.96
100 YANCEY	12	74.94	50	63.39	64.34 *

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

CEREBROVASCULAR DISEASE



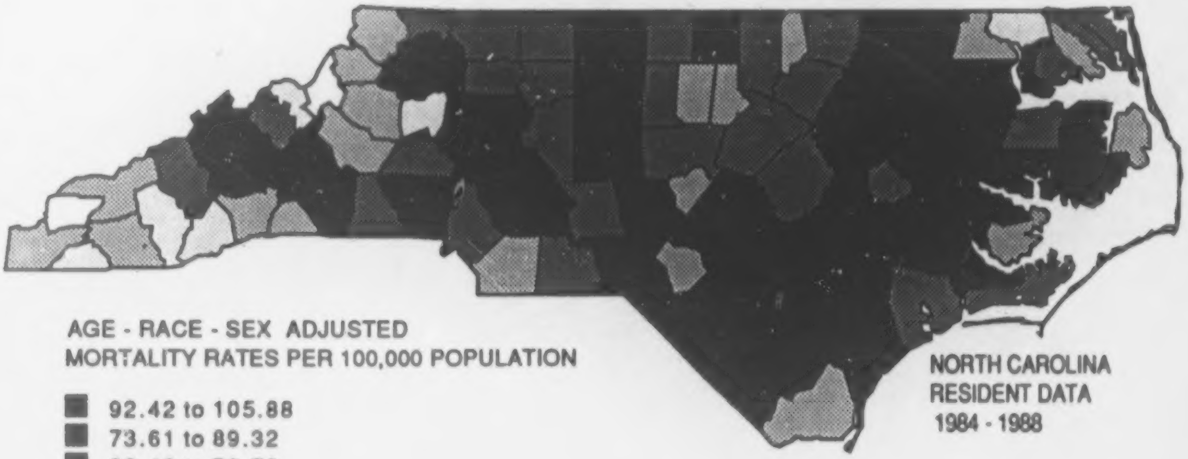
MORTALITY RATES PER 100,000 POPULATION

- ■ 124.94 to 136.37
- ■ 99.49 to 114.81
- ■ 87.38 to 97.48
- ▨ 66.94 to 84.77
- □ 42.35 to 63.90
- □ 28.77 to 28.77

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 4.A

CEREBROVASCULAR DISEASE



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

- ■ 92.42 to 105.88
- ■ 73.61 to 89.32
- ■ 62.48 to 72.72
- ▨ 51.21 to 61.01
- □ 42.51 to 46.67
- □ 33.47 to 36.98

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 4.B

ATHEROSCLEROSIS

Atherosclerosis is a general term covering a number of diseases of the blood vessels and is often called "hardening of the arteries." Like hypertension, atherosclerosis is listed as a contributing cause on the death certificate far more often than it is considered the underlying cause of death. In particular, atherosclerosis contributes to deaths from heart disease, stroke, and diabetes. It was estimated that in 1970, 87 percent of the more than 1 million deaths in the United States due to heart and blood vessel diseases were attributable to atherosclerosis and its sequelae (1).

As the underlying cause of death, atherosclerosis accounted for 414 North Carolina deaths in 1988, a rate of 6.4 deaths per 100,000 population. The 1987 U.S. rate was considerably higher at 9.2. However, after adjustment for age, the 1987 N.C. and U.S. rates were virtually the same at 3.4 and 3.6 respectively. (2)

The recent decline in North Carolina's age-adjusted atherosclerosis mortality far exceeded the declines observed for heart disease and stroke, and the decline was virtually the same for all race-sex groups at an average 28 percent between 1979-83 and 1984-88.

Noteworthy are the race and sex differentials. The 1984-88 white male rate was about a third higher than that for white females, and the nonwhite male rate exceeded that for nonwhite females by 58 percent. Nonwhite rates were considerably higher than the white rates, 54 percent higher for males and 31 percent higher for females.

Compared to 414 deaths with atherosclerosis as the underlying cause, a total of 12,329 death certificates had a mention of atherosclerosis. This suggests that 21 percent of all North Carolina deaths in 1988 involved atherosclerosis, though it is not known just how completely this condition is recorded on the death certificate. Of these 12,329 deaths with mention of atherosclerosis, 66 percent had heart disease as the underlying cause of death and 12 percent had cerebrovascular disease as the underlying cause. Around 40 percent of the deaths with heart disease and 30 percent of those with cerebrovascular disease as the underlying cause had a mention of atherosclerosis, and about 35 percent of the deaths with a mention of heart or cerebrovascular disease had a mention of atherosclerosis. These data are from Tables 23 and 24 of this report.

RISK FACTORS

Three major treatable risk factors contributing to atherosclerosis have been identified: elevated blood cholesterol levels, high blood pressure, and cigarette smoking. A number of additional factors are also recognized: diabetes, physical inactivity, obesity, age, male sex, and certain personality types, that is, "type A" or coronary-prone behavior. (1)

Increasing epidemiological evidence supports the hypothesis that higher concentrations of high-density lipoproteins (HDLs) may be a protective factor in the development of atherosclerosis. "Levels of HDL have been correlated positively with exercise and moderate ingestion of alcohol and inversely related to obesity, smoking, poor control of diabetes, and the use of progestin-containing contraceptives" (1). However, the cause and effect of the inverse relationship between HDL and atherosclerosis remain unclear.

GEOGRAPHIC PATTERNS

The clustering procedures described in Section II of this report revealed no statistically significant clusters of counties with high unadjusted or adjusted atherosclerosis death rates. Although a cluster of six southcentral counties was identified by the adjusted rates of 1979-81, it was noted that the pattern should be considered cautiously due to very small numerators in the six counties' rates (6). Due to this problem in most counties of the state, the two maps on atherosclerosis use mentioned conditions rather than underlying cause data. These maps, along with an associated analysis, are presented in the Multiple Conditions Section (Section IX) and show 1988 atherosclerosis mentions per 100,000 population.

TABLE-5

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

ATHEROSCLEROSIS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	414	6.38	2548	8.05	8.05
REGIONS					
DHR I WESTERN	144	6.47	864	7.97	7.28
DHR II N. CENTRAL	68	4.98	523	7.84	7.27
DHR III S. CENTRAL	95	6.19	597	8.03	9.31
DHR IV EASTERN	107	7.82	564	8.40	8.97
HSA I WESTERN	78	7.11	471	8.73	7.31
HSA II PIEDMONT	60	4.99	480	8.15	7.66
HSA III S. PIEDMONT	66	5.85	393	7.21	7.41
HSA IV CAPITAL	63	6.49	378	8.16	8.79
HSA V CARDINAL	61	6.26	354	7.40	8.41
HSA VI EASTERN	86	7.68	472	8.56	9.17
COUNTIES					
1 ALAMANCE	5	4.72	71	13.71	11.83
2 ALEXANDER	0	0.00	7	5.20	5.17
3 ALLEGHANY	2	20.36	5	10.23	5.86
4 ANSON	0	0.00	5	3.81	2.40
5 ASHE	4	17.02	12	10.28	5.62
6 AVERY	0	0.00	3	3.97	3.53
7 BEAUFORT	2	4.71	11	5.19	4.76
8 BERTIE	0	0.00	8	7.54	7.08
9 BLADEN	4	12.93	18	11.68	10.98
10 BRUNSWICK	5	9.81	13	5.47	6.15
11 BUNCOMBE	24	13.85	118	13.89	10.86
12 BURKE	1	1.29	14	3.68	3.75
13 CABARRUS	3	3.12	17	3.63	3.45
14 CALDWELL	1	1.39	16	4.55	4.28
15 CAMDEN	0	0.00	5	16.92	14.23
16 CARTERET	1	1.95	6	2.43	1.80
17 CASWELL	2	9.01	7	6.29	5.73
18 CATAWBA	3	2.55	24	4.20	4.36
19 CHATHAM	4	10.88	17	9.47	7.71
20 CHEROKEE	0	0.00	1	0.97	0.57
21 CHOWAN	5	36.50	14	20.98	15.49
22 CLAY	0	0.00	3	8.39	3.49
23 CLEVELAND	5	5.73	32	7.43	6.86
24 COLUMBUS	2	3.80	15	5.73	5.24
25 CRAVEN	7	8.57	30	7.51	9.85
26 CUMBERLAND	4	1.57	47	3.68	8.06
27 CURRITUCK	0	0.00	6	8.95	9.71
28 DARE	1	4.65	20	21.35	20.31
29 DAVIDSON	4	3.21	56	9.23	9.81
30 DAVIE	0	0.00	7	5.19	6.44
31 DUPLIN	5	12.00	29	13.93	12.40
32 DURHAM	31	18.07	156	18.86	17.68
33 EDGECOMBE	6	10.01	26	8.82	8.88
34 FORSYTH	12	4.50	66	5.05	4.78
35 FRANKLIN	1	2.82	6	3.54	2.64
36 GASTON	12	6.88	53	6.16	6.57
37 GATES	1	10.21	5	10.49	6.26
38 GRAHAM	2	28.50	4	11.21	8.04
39 GRANVILLE	2	5.13	13	6.92	5.79
40 GREENE	2	12.20	3	3.63	4.59
41 GUILFORD	30	8.90	171	10.35	9.59

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
ATHEROSCLEROSIS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	6	10.55	37	13.14	9.15
43 HARNETT	3	4.52	15	4.68	5.27
44 HAYWOOD	2	4.14	17	7.07	7.68
45 HENDERSON	6	8.66	30	8.96	6.79
46 HERTFORD	2	8.44	10	8.38	7.10
47 HOKE	2	8.34	7	6.05	3.39
48 HYDE	1	17.61	3	10.25	8.17
49 IREDELL	1	1.09	34	7.66	6.92
50 JACKSON	0	0.00	12	8.92	7.13
51 JOHNSTON	2	2.47	24	6.15	6.30
52 JONES	0	0.00	6	12.16	8.62
53 LEE	4	9.53	21	10.27	10.52
54 LENOIR	5	8.29	40	13.23	12.15
55 LINCOLN	5	10.29	18	7.75	9.20
56 MCDOWELL	10	27.51	26	14.33	10.80
57 MACON	4	17.09	12	10.38	4.78
58 MADISON	1	5.80	6	6.95	4.02
59 MARTIN	2	7.57	11	8.29	8.43
60 MECKLENBURG	24	5.04	138	6.08	7.04
61 MITCHELL	0	0.00	6	8.25	4.27
62 MONTGOMERY	0	0.00	6	5.01	4.11
63 MOORE	5	8.42	47	16.66	12.50
64 NASH	3	4.12	19	5.31	5.73
65 NEW HANOVER	11	9.36	56	9.81	10.63
66 NORTHAMPTON	3	13.56	24	21.42	15.69
67 ONSLOW	1	0.79	21	3.39	9.40
68 ORANGE	7	7.91	41	9.70	12.52
69 PAMLICO	1	9.10	3	5.49	3.66
70 PASQUOTANK	3	9.77	8	5.33	4.19
71 PENDER	3	11.07	8	6.30	7.06
72 PERQUIMANS	8	72.50	23	43.80	30.57
73 PERSON	1	3.18	12	7.82	7.38
74 PITT	5	4.90	23	4.68	6.29
75 POLK	2	13.58	12	16.50	7.23
76 RANDOLPH	1	0.97	21	4.23	5.08
77 RICHMOND	5	10.90	29	12.69	11.02
78 ROBESON	11	10.18	60	11.25	12.96
79 ROCKINGHAM	1	1.15	26	6.07	5.75
80 ROWAN	14	13.14	87	16.70	12.46
81 RUTHERFORD	3	5.18	44	15.39	11.71
82 SAMPSON	4	7.85	12	4.75	3.67
83 SCOTLAND	2	5.76	16	9.40	12.03
84 STANLY	6	11.75	33	13.10	12.28
85 STOKES	1	2.74	14	7.83	7.30
86 SURRY	3	4.83	35	11.41	9.33
87 SWAIN	2	19.01	8	15.03	9.37
88 TRANSYLVANIA	1	3.81	21	16.36	15.83
89 TYRRELL	1	24.42	1	4.86	3.77 *
90 UNION	1	1.19	13	3.24	3.90
91 VANCE	1	2.54	4	2.06	1.54
92 WAKE	7	1.80	76	4.17	5.92
93 WARREN	3	18.04	8	9.70	5.65
94 WASHINGTON	1	6.83	8	10.99	12.38
95 WATAUGA	0	0.00	11	6.40	4.70
96 WAYNE	4	4.05	41	8.34	10.70
97 WILKES	3	4.88	20	6.56	6.52
98 WILSON	10	15.24	31	9.55	10.26
99 YADKIN	1	3.29	6	4.04	2.65
100 YANCEY	2	12.49	7	8.87	5.23

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

REFERENCES FOR SECTION IV

1. Levy, R.I.; Moskowitz, J. "Cardiovascular Research: Decades of Progress, A Decade of Promise," Science. Volume 217, July 9, 1982, pp. 121-129.

2. National Center for Health Statistics. "Advance Report of Final Mortality Statistics, 1987," Monthly Vital Statistics Report. Volume 38, Number 5 supp., Hyattsville, Maryland: Public Health Service, September 26, 1989.

3. Centers for Disease Control. "Chronic Disease Reports: Coronary Heart Disease Mortality - United States, 1986," Morbidity and Mortality Weekly Report. Vol. 38, Massachusetts Medical Society, Waltham, Ma. 1989, pp. 285-286.

4. National Center for Health Statistics. Health, United States, 1988. DHHS Pub. No. (PHS) 89-1232. Public Health Service. Washington, U.S. Government Printing Office, March 1989.

5. Reilly, I.A.; Fitzgerald, G.A. "Aspirin in Cardiovascular Disease," Drugs. Vol. 35, No. 2. February 1988, pp. 154-76.

6. North Carolina Department of Human Resources, State Center for Health Statistics. Leading Causes of Mortality: North Carolina Vital Statistics, Volume 2, 1981. Raleigh, September 1983.

7. Centers for Disease Control. "Chronic Disease Reports: Stroke - United States, 1986," Morbidity and Mortality Weekly Report. Vol. 38, Massachusetts Medical Society, Waltham, Ma. 1989, pg. 193.

8. Tyroler, H.A.; Haynes, S. "Community Cardiovascular Surveillance Program: Phase II-Protocol," Unpublished Paper. Department of Epidemiology, School of Public Health, UNC-Chapel Hill, N.C., April 1982.

V. CANCER MORTALITY

ACKNOWLEDGEMENTS

We are indebted to the following people who contributed to the cancer sections:

Cancer	-Donald Lannin, M.D. Associate Professor, East Carolina University Medical School Chief of Surgical Oncology, Pitt Memorial Hospital, Greenville
Cancer of the Colon, Rectum	-Robert Sandler, M.D., Ph.D. Associate Professor, Department of Medicine University of North Carolina at Chapel Hill
Cancer of the Lung	-Electra Paskett, Ph.D. Assistant Professor, Department of Public Health Services Bowman Gray School of Medicine, Winston-Salem
Cancer of the Female Breast	-Sara Ephross, M.S.P.H. Research Assistant, Department of Epidemiology School of Public Health, University of North Carolina at Chapel Hill
Cancer of the Prostate	-Dexter Morris, M.D., Ph.D. Assistant Professor, Department of Epidemiology School of Public Health, University of North Carolina at Chapel Hill
Cancer in Special Populations	-Paul Godley, M.D., M.P.P. Research Fellow, Department of Medical Oncology University of North Carolina at Chapel Hill

CANCER

A recent article in the New England Journal of Medicine (1) asserted that, despite years of work and millions of dollars for research, there has been little progress against cancer. The main evidence in favor of this viewpoint is that cancer is still the second leading cause of mortality in the United States, and it is the only major illness which causes more deaths today than it did in 1950. The article stimulated quite a bit of debate in the scientific and lay press, and most observers concluded that it is a complex issue which cannot be reduced to generalizations. However, at least these considerations should be kept in mind as one evaluates the viewpoint of the referenced article:

1) For lung cancer, which is the most frequently occurring type of cancer in men and now the leading cause of cancer death in American women, the survival picture is dismal. The large proportion of cancer victims experiencing poor survival creates the statistical "evidence" that no progress is being made.

2) Other leading causes of death are declining in the United States, e.g., heart disease and cerebrovascular disease (1). As these causes of death claim fewer and fewer lives, persons survive longer, leaving a substantially larger pool of individuals at higher risk for cancer than previously existed. This phenomenon of "competing causes of death" is one reason for the absence of a decline in U.S. cancer mortality since 1950.

It is also apparent that progress with one form of cancer or in one geographic location is easily hidden by worsening results elsewhere. Furthermore, to really answer the question, the incidence trends for different cancers and survival figures after treatment as well as mortality data must be examined. However, mortality is still the bottom line. In 1986, the National Cancer Institute set a goal to reduce cancer mortality by 50 percent before the year 2000 (1). The data in this volume can be used to measure how far we must go to achieve this goal.

In addition to measuring progress, the data presented here may suggest strategies which could be used to reduce cancer mortality. There are two possible ways to make progress against cancer: to make new discoveries or develop new technology and to apply current knowledge and technology more effectively. Where the data show a marked difference in mortality between two geographical areas for a certain cancer, attempts should be made to identify reasons for the discrepancy. It is likely that methods may be found to better apply existing knowledge to lower the mortality in the higher area. Thus, the data in the following pages not only measure our progress toward the goal of reducing cancer mortality, but also provide clues as to how this goal may be achieved.

In 1988, a total of 12,700 North Carolinians died from cancer. These deaths represent 22 percent of the state's deaths, the same proportion observed in the U.S. (2). The 1988 cancer death rate was 195.8 deaths per 100,000 population, an increase of 3.5 percent over the 1987 rate. However, the state's age-adjusted cancer death rate rose less than 1.1 percent in 1988.

The state's 1984-88 age-adjusted cancer death rate was two percent higher than that for the five-year period 1979 -83. Comparisons of the age-adjusted rate changes for race-sex groups reveal increases of about five percent for all but white males whose rate declined slightly.

The number of cancer deaths in North Carolina begins to increase at ages 35-44 and peaks at ages 75-84. The death rate peaks in the 85 and older category except among nonwhite males whose rate is highest at ages 75-84. A recent study concerning the health of the elderly in North Carolina found an increase in cancer rates for all age, race, and sex groups over 65, especially nonwhite males, between 1968-72 and 1983-87 (3).

In 1987, the state's age-adjusted cancer death rate was 0.3 percent higher than that for the United States. The rate for N.C. white females was 9.5 percent lower while rates for the other race-sex groups were all higher. The rate for N.C. nonwhite males was more than 16 percent higher than the corresponding U.S. rate. (4)

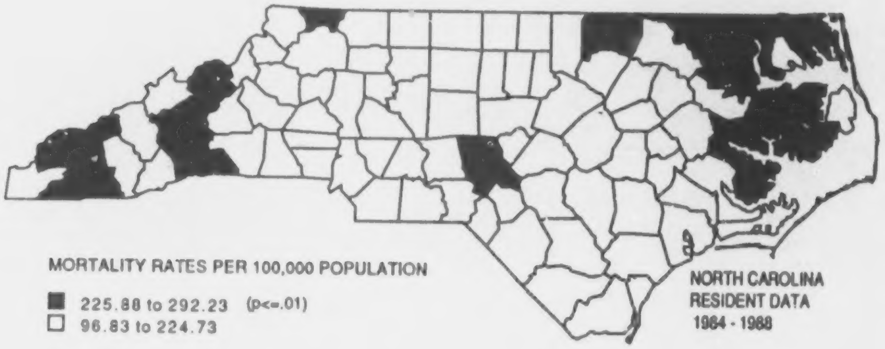
An interesting criterion for evaluating the impact of cause-specific mortality is the measure "years-of-life-lost," i.e., the loss in years of expected survival due to "early" death. Years-of-life-lost (YLL) cancer rates in North Carolina in 1988 reveal that for white females cancer had the highest overall YLL due largely to the fact that white females have the highest life expectancy of all the race-sex groups. Cancer ranked second or third in YLL for each of the other race-sex groups.

GEOGRAPHIC PATTERNS

Unadjusted and age-race-sex-adjusted county death rates for 1984-88 are mapped in Figures 5.A and 5.B respectively. For this five-year period, as in the past, high unadjusted rates were more prevalent among western and eastern counties with relatively low rates occurring in the southcentral portion of the state. However, these differences are due largely to age-race-sex differences since adjustment for these factors considerably changes the mortality picture. The western counties' rates are generally lower while the high rates, although diminished, remain in the eastern counties.

Based on procedures described in Section II, the following map reveals several statistically significant clusters of counties with high unadjusted rates. These clusters are located in northeastern and western North Carolina, and are similar to clusters of unadjusted county rates observed in 1979-81 (5). After adjustment for age, race, and sex, there were no statistically significant clusters of high-rate counties. Hence, clustering of high-rate counties reflects variations in age, race, and/or sex among the populations of these counties. In contrast, in the 1979-81 period there were two small clusters of three and four counties (based on adjusted rates) in the eastern part of the state (5).

CANCER - ALL SITES


MORTALITY RATES PER 100,000 POPULATION
■ 225.88 to 292.23 (p<=.01)
☐ 96.83 to 224.73
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

SITE-SPECIFIC CANCER

This report is designed to address mortality patterns for several cancers that are leading causes of death (lung, colorectal, breast, and prostate). Other cancers previously reported in this volume are not included this year due to growing concern about instability of the county death rates (due to the relatively small numbers of deaths involved). A separate report will be forthcoming on these more rare cancers.

TABLE - 6

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CANCER - ALL SITES

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	12700	195.76	58216	183.98	183.98
REGIONS					
DHR I WESTERN	4487	201.79	20567	189.79	181.61
DHR II N. CENTRAL	2710	198.77	12647	189.60	180.00
DHR III S. CENTRAL	2657	173.34	12032	162.02	185.02
DHR IV EASTERN	2846	208.07	12970	193.34	194.67
HSA I WESTERN	2368	216.13	10703	198.50	178.89
HSA II PIEDMONT	2382	198.23	11051	187.80	181.56
HSA III S. PIEDMONT	2119	187.86	9864	181.17	184.82
HSA IV CAPITAL	1698	175.13	7776	167.92	182.22
HSA V CARDINAL	1832	188.27	8380	175.38	191.46
HSA VI EASTERN	2301	205.49	10442	189.45	191.73
COUNTIES					
1 ALAMANCE	231	218.12	1074	207.51	177.07
2 ALEXANDER	34	123.35	169	125.57	146.13
3 ALLEGHANY	24	244.42	117	239.47	189.04
4 ANSON	42	160.06	251	191.39	168.05
5 ASHE	51	217.13	243	208.19	197.93
6 AVERY	28	183.55	128	169.80	183.71
7 BEAUFORT	117	275.73	479	226.35	194.98
8 BERTIE	50	237.66	250	235.84	185.41
9 BLADEN	62	200.43	294	190.77	176.00
10 BRUNSWICK	108	211.94	509	214.33	202.05
11 BUNCOMBE	415	239.61	1918	225.88	192.26
12 BURKE	165	213.42	622	163.59	167.52
13 CABARRUS	184	191.78	934	199.83	184.10
14 CALDWELL	143	200.13	632	179.78	187.16
15 CAMDEN	15	247.64	67	226.83	207.63
16 CARTERET	126	246.87	528	214.34	205.71
17 CASWELL	40	180.23	192	172.63	158.30
18 CATAWBA	219	186.62	1003	175.78	184.25
19 CHATHAM	77	209.60	337	187.81	164.83
20 CHEROKEE	49	231.28	206	200.66	166.23
21 CHOWAN	45	328.58	195	292.22	215.03
22 CLAY	17	233.70	86	240.52	183.91
23 CLEVELAND	193	221.54	850	197.56	188.03
24 COLUMBUS	109	207.37	497	189.99	178.37
25 CRAVEN	129	158.10	593	148.48	180.38
26 CUMBERLAND	316	124.10	1445	113.39	195.77
27 CURRITUCK	44	314.57	163	243.39	231.98
28 DARE	58	270.27	197	210.35	187.13
29 DAVIDSON	242	194.69	1073	176.90	181.33
30 DAVIE	72	258.56	277	205.53	217.70
31 DUPLIN	85	204.06	446	214.37	187.85
32 DURHAM	340	198.27	1572	190.05	195.94
33 EDGECOMBE	146	243.79	606	205.70	195.59
34 FORSYTH	489	183.59	2415	185.11	179.55
35 FRANKLIN	61	172.09	310	183.29	151.77
36 GASTON	354	203.22	1591	185.12	189.05
37 GATES	24	245.14	132	277.05	213.36
38 GRAHAM	19	270.77	83	232.72	172.45
39 GRANVILLE	62	159.07	330	175.83	148.51
40 GREENE	31	189.18	130	157.71	157.29
41 GUILFORD	672	199.50	3165	191.65	189.24

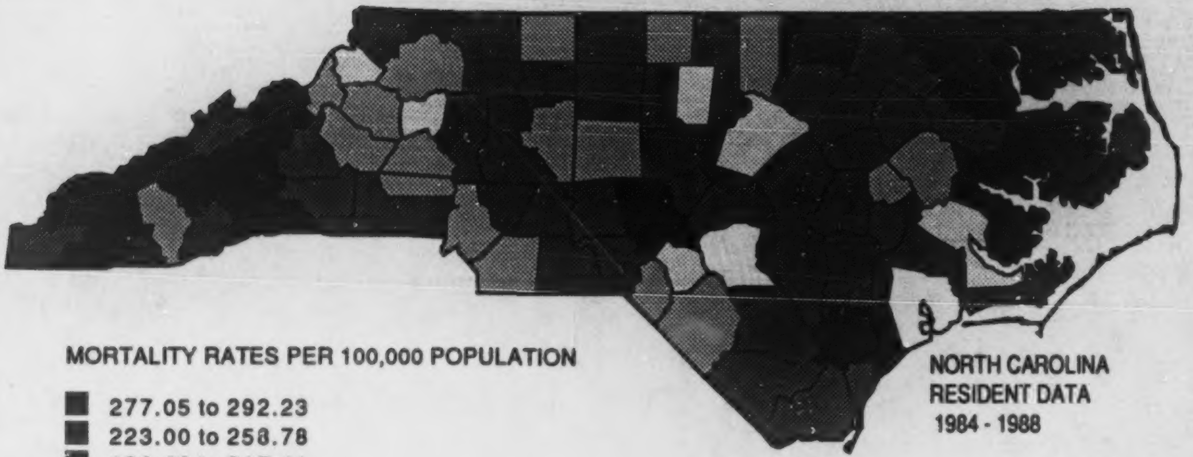
* SEE SECTION II: RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CANCER - ALL SITES CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	124	218.15	587	208.56	170.86
43 HARNETT	153	230.81	619	193.15	207.20
44 HAYWOOD	114	236.17	536	223.00	179.24
45 HENDERSON	201	290.21	826	246.77	178.12
46 HERTFORD	65	274.62	273	228.92	186.46
47 HOKE	43	179.36	159	137.49	177.46
48 HYDE	9	158.53	70	239.35	199.86
49 IREDELL	176	192.15	832	187.46	173.15
50 JACKSON	46	170.05	216	160.63	152.94
51 JOHNSTON	159	197.11	720	184.55	177.92
52 JONES	25	253.88	100	202.82	156.24
53 LEE	85	202.67	377	184.50	187.00
54 LENOIR	124	205.66	623	206.21	188.85
55 LINCOLN	75	154.35	376	162.01	164.71
56 MCDOWELL	86	236.64	348	191.83	179.98
57 MACON	73	311.91	299	258.78	217.88
58 MADISON	45	261.14	175	202.94	222.40*
59 MARTIN	56	211.98	267	201.43	179.22
60 MECKLENBURG	820	172.25	3833	168.91	190.63
61 MITCHELL	32	217.70	167	229.72	141.80
62 MONTGOMERY	50	206.85	230	192.07	173.21
63 MOORE	171	288.28	723	256.40	194.47
64 NASH	144	197.96	670	187.57	183.07
65 NEW HANOVER	267	227.39	1237	216.70	225.15
66 NORTHAMPTON	47	212.59	264	235.62	194.31
67 ONSLOW	122	97.20	599	96.82	201.14
68 ORANGE	127	143.52	584	138.19	182.86
69 PAMLICO	31	282.33	138	252.81	206.46
70 PASQUOTANK	77	251.01	355	236.70	214.13
71 PENDER	61	225.24	285	224.57	191.63
72 PERQUIMANS	29	262.84	118	224.72	160.55
73 PERSON	56	178.21	280	182.58	164.96
74 PITT	180	176.46	783	159.48	185.09
75 POLK	33	224.15	204	280.55	171.78
76 RANDOLPH	179	174.20	851	171.54	181.64
77 RICHMOND	83	180.98	451	197.48	173.62
78 ROBESON	195	180.52	874	163.97	182.65
79 ROCKINGHAM	183	211.60	840	196.14	181.18
80 ROWAN	239	224.37	1132	217.41	179.34
81 RUTHERFORD	119	205.84	585	204.74	173.95
82 SAMPSON	106	208.28	504	199.53	178.44
83 SCOTLAND	66	190.19	302	177.60	200.23
84 STANLY	127	248.80	520	206.56	183.87
85 STOKES	65	178.14	284	158.92	168.26
86 SURRY	147	236.67	597	194.68	179.96
87 SWAIN	31	294.73	123	231.13	189.19
88 TRANSYLVANIA	58	221.47	278	216.64	206.28
89 TYRRELL	8	195.36	48	233.49	205.52
90 UNION	144	171.41	646	161.37	188.63
91 VANCE	98	249.54	446	230.59	202.13
92 WAKE	582	149.80	2590	142.22	185.72
93 WARREN	51	306.76	230	278.99	205.30
94 WASHINGTON	29	198.10	166	228.14	217.29
95 WATAUGA	55	158.62	225	131.10	148.36
96 WAYNE	205	207.85	933	189.93	207.69
97 WILKES	81	131.86	478	156.93	153.10
98 WILSON	156	237.86	662	204.09	196.60
99 YADKIN	62	204.47	283	190.55	154.88
100 YANCEY	37	231.09	186	235.83	200.84

* SEE SECTION II: RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

CANCER - ALL SITES



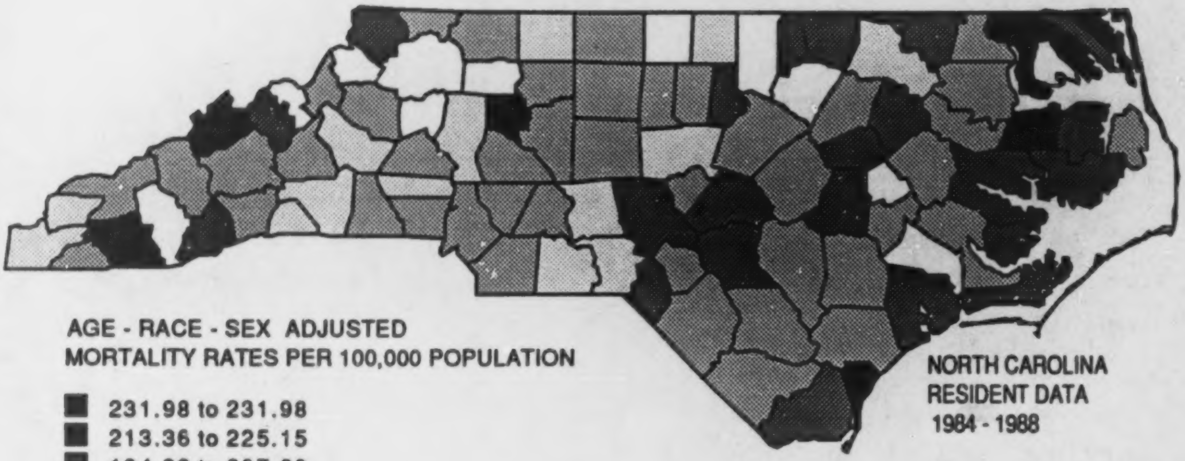
MORTALITY RATES PER 100,000 POPULATION

- ■ 277.05 to 292.23
- ■ 223.00 to 258.78
- ■ 182.59 to 217.41
- ▨ 156.93 to 179.78
- □ 125.58 to 148.49
- □ 96.83 to 113.39

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 5.A

CANCER - ALL SITES



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

- ■ 231.98 to 231.98
- ■ 213.36 to 225.15
- ■ 194.32 to 207.69
- ▨ 176.01 to 192.27
- □ 164.72 to 173.95
- □ 141.80 to 160.55

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 5.B

Meanwhile, because of their substantial public health interest, a brief narrative follows for three of these "rare" cancers: pancreas, uterine cervix, and leukemia.

PANCREAS (ICD 157)

This cancer has been increasing in frequency in the United States for the last two decades (2). Debate continues over whether the increase is due to better detection and reporting, or whether it is a real trend (1).

The 1988 North Carolina rate of 10.3 deaths per 100,000 population represented an eight percent increase over the 1987 rate, while the age-adjusted rate increase was 5.5 percent. Between the five-year periods 1979-83 and 1984-88, there was virtually no change in the state's age-adjusted death rate although nonwhite males and females experienced small increases.

During 1984-88, the age-adjusted death rates for nonwhite males and females were approximately 50 percent higher than the corresponding rates for whites. This race differential warrants close public health attention and surveillance; unfortunately, clear-cut options for prevention are not established.

CERVIX UTERI (ICD 180)

Cervical cancer is still a common diagnosis in the United States; yet increasingly, it is not life-threatening because of early detection and the availability of excellent treatment capabilities.

Between 1987 and 1988, the North Carolina death rate for cervical cancer declined 2.8 percent to 4.2 deaths per 100,000 population. The age-adjusted rate declined 3.5 percent. Between

1979-83 and 1984-88, the age-adjusted rate declined approximately 12 percent; the decline was approximately 20 percent for nonwhites compared to 10 percent for whites.

During 1984-88, the age-adjusted nonwhite female death rate was about three times that for white females. This wide differential probably involves late access to health care and perhaps socioeconomic and sexual activity factors often associated with the disease.

LEUKEMIA (ICD 204-208)

Leukemia is second only to injuries as a leading cause of death among children. Childhood leukemia presents as a very aggressive disease, while for adults leukemias are often quite indolent processes. Risk factors for leukemia are generally environmental and occupational. Leukemia is managed primarily with chemotherapy; today the prognosis is quite good for early diagnoses.

North Carolina's leukemia death rate in 1988 was 7.0, which was 11 percent above the 1987 rate. However, the age-adjusted rate increase was half that at 5.5 percent.

Between 1979-83 and 1984-88, the state's age-adjusted leukemia death rate declined about nine percent with most of the decrease occurring among whites. During 1984-88, the age-adjusted rates for white and nonwhite males were approximately the same, each being more than 50 percent higher than the corresponding female rate.

In 1987, the state's age-adjusted leukemia death rate was eight percent below the nation's. However, the rate for North Carolina's nonwhite males was 15 percent higher than the corresponding U.S. rate. (4)

NOTE: Due to ready availability, the 1979-83, and 1984-88 age-adjusted death rates examined for the above site-specific cancers used the 1970 U.S. Census population as the standard for direct age-adjustment. Other age-adjusted rates examined in this report use the 1940 U.S. Census as the standard, following the convention of the National Center for Health Statistics. In terms of percent differences over time and between race-sex groups, the two standards yield generally similar results.

CANCER OF THE COLON AND RECTUM

Colorectal cancer is the second leading cause of cancer death in North Carolina, exceeded only by lung cancer. The marked geographic differences in incidence for this cancer, and the fact that incidence rates change with migration, suggest that there may be important environmental determinants. It might be possible to prevent a substantial proportion of colorectal cancer if these factors could be identified and modified. A variety of risk factors for the disease have been examined.

Many studies have explored the relationship between diet and colorectal cancer. A high-fiber, low-fat diet is thought by some to protect against large bowel cancer, although studies have had somewhat contradictory results (6,7). Other dietary factors that may be protective include calcium, cruciferous vegetables (broccoli, cabbage, Brussels sprouts), vitamin A, beta carotene, garlic and onions (8,9).

There is no consistent association with occupation apart from above-average risk among professional and administrative workers. There have been reports of increased rates in woodworkers, pattern makers, synthetic fiber workers, and asbestos workers. Physical activity, both avocational and occupational, may decrease risk. (10) Individuals with a first-degree relative with colon cancer appear to be three times more likely to develop the disease themselves. Recent molecular studies have identified specific genetic abnormalities in some colon cancers. (11)

Colon cancers that are discovered early are more amenable to surgical cure. Although there are techniques available to screen for colon cancer, they have not been convincingly demonstrated to confer a survival advantage to those screened. Because screening programs are expensive, our best hope to decrease the burden of suffering from colon cancer is through prevention. The data available from epidemiologic studies suggest that such prevention may be feasible.

Based on data collected between 1979 and 1984, the five-year survival rates for colon cancer were 54 percent for whites, 49 percent for blacks, and 53 percent overall (2).

In 1988, a total of 1,331 North Carolinians died of colorectal cancer. This accounted for 10.5 percent of the state's cancer deaths and 2.3 percent of all deaths. The mortality rate in 1988 was 20.5 deaths per 100,000 population. This was a 2.5 percent increase over the 1987 mortality rate of 20.0. However, after adjustment for age, there was a three percent decrease between 1987 and 1988.

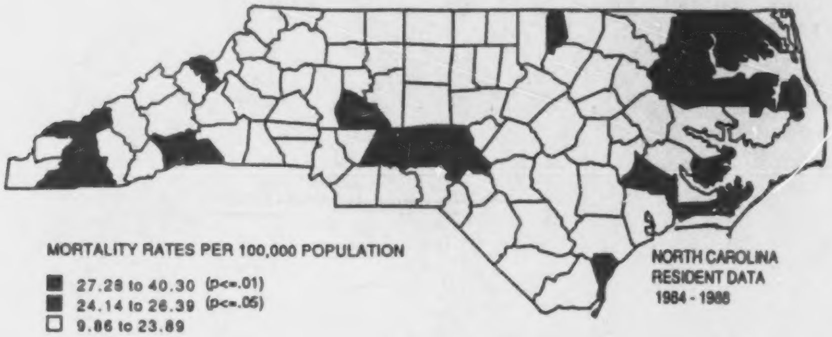
The five-year age-adjusted mortality rate (1984-88) was the same as that of the preceding five-year period (1979-83). There was a slight decrease for whites (males and females) and increases of 5.4 and 12.5 percent respectively for nonwhite males and females. In 1986 North Carolina had the thirty-second highest age-adjusted mortality rate in the nation (12).

In North Carolina colon cancer deaths are not often found prior to age 45, and the death rate is highest at ages 85 and older (3). This holds true for both sexes and races. The age-adjusted colorectal cancer death rate for race-sex groups reveal higher rates among nonwhites, but the race differentials are relatively small. This suggests that environmental determinants are largely non-occupational.

GEOGRAPHIC PATTERNS

More than any other site-specific cancer mortality rates examined in this report, North Carolina's higher county-level colon/rectum cancer rates tend to cluster to a statistically significant degree, following the procedures described in Section II. When mapped, the high unadjusted rates reveal northeastern, central, and southwestern clusters as shown in the first text map below.

CANCER - COLON, RECTUM AND ANUS


MORTALITY RATES PER 100,000 POPULATION
■ 27.28 to 40.30 (p<=.01)
■ 24.14 to 26.39 (p<=.05)
☐ 9.86 to 23.89
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

As shown in the age-race-sex-adjusted text map below, significant clusters of high-rate counties are found in the east-northeast and central portions of the state. Health officials should be particularly aware of these areas with high colon/rectum cancer mortality over and above that due to age, race, and sex factors. Counties not identified in the text maps should consult Figures 6.A and 6.B to ascertain their relative levels of mortality from colorectal cancer.

CANCER - COLON, RECTUM AND ANUS

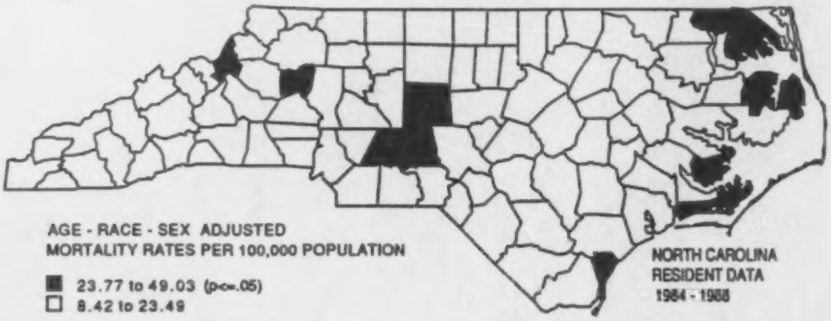

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 23.77 to 49.03 (p<=.05)
☐ 8.42 to 23.49
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

TABLE-7

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CANCER - COLON, RECTUM AND ANUS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1331	20.51	6206	19.61	19.61
REGIONS					
DHR I WESTERN	473	21.27	2261	20.86	19.77
DHR II N. CENTRAL	276	20.24	1323	19.83	18.76
DHR III S. CENTRAL	292	19.04	1255	16.89	19.23
DHR IV EASTERN	290	21.20	1367	20.37	20.80
HSA I WESTERN	266	24.27	1155	21.42	19.32
HSA II PIEDMONT	238	19.80	1161	19.73	19.03
HSA III S. PIEDMONT	207	18.35	1106	20.31	20.69
HSA IV CAPITAL	185	19.08	830	17.92	19.29
HSA V CARDINAL	196	20.14	865	18.10	19.75
HSA VI EASTERN	239	21.34	1089	19.75	20.28
COUNTIES					
1 ALAMANCE	24	22.66	123	23.76	20.18
2 ALEXANDER	1	3.62	27	20.06	24.26
3 ALLEGHANY	2	20.36	10	20.46	12.92
4 ANSON	3	11.43	20	15.25	11.89
5 ASHE	6	25.54	19	16.27	17.95 *
6 AVERY	2	13.11	15	19.89	49.03 *
7 BEAUFORT	10	23.56	42	19.84	16.98
8 BERTIE	10	47.53	29	27.35	21.20
9 BLADEN	8	25.86	29	18.81	18.01
10 BRUNSWICK	9	17.66	50	21.05	20.82
11 BUNCOMBE	38	21.94	197	23.20	19.56
12 BURKE	15	19.40	60	15.78	15.09
13 CABARRUS	21	21.88	106	22.67	20.35
14 CALDWELL	18	25.19	58	16.49	16.77
15 CAMDEN	1	16.50	9	30.47	26.43
16 CARTERET	9	17.63	65	26.38	26.64
17 CASWELL	5	22.52	21	18.88	20.58
18 CATAWBA	29	24.71	119	20.85	22.07
19 CHATHAM	8	21.77	41	22.84	19.56
20 CHEROKEE	4	18.88	19	18.50	13.24
21 CHOWAN	5	36.50	19	28.47	19.97
22 CLAY	0	0.00	12	33.56	19.75
23 CLEVELAND	26	29.84	100	23.24	22.13
24 COLUMBUS	7	13.31	37	14.14	13.29
25 CRAVEN	16	19.61	60	15.02	18.13
26 CUMBERLAND	40	15.70	146	11.45	20.61
27 CURRITUCK	5	35.74	16	23.89	22.16
28 DARE	9	41.93	29	30.96	29.77
29 DAVIDSON	19	15.28	96	15.82	15.76
30 DAVIE	7	25.13	28	20.77	22.45
31 DUPLIN	9	21.60	36	17.30	14.77
32 DURHAM	36	20.99	175	21.15	21.16
33 EDGECOMBE	10	16.69	60	20.36	18.59
34 FORSYTH	49	18.39	259	19.85	19.05
35 FRANKLIN	10	28.21	32	18.92	14.11
36 GASTON	31	17.79	160	18.61	18.59
37 GATES	3	30.64	13	27.28	24.13
38 GRAHAM	1	14.25	7	19.62	13.13
39 GRANVILLE	8	20.52	43	22.91	18.87
40 GREENE	3	18.30	13	15.77	15.75
41 GUILFORD	81	24.04	341	20.64	20.32

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CANCER - COLON, RECTUM AND ANUS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	11	19.35	52	18.47	16.84
43 HARNETT	16	24.13	58	18.09	19.32
44 HAYWOOD	17	35.21	56	23.29	17.78
45 HENDERSON	24	34.65	112	33.46	21.52
46 HERTFORD	5	21.12	35	29.34	22.70
47 HOKE	4	16.68	12	10.37	13.46
48 HYDE	1	17.61	6	20.51	20.38
49 IREDELL	19	20.74	97	21.85	20.13
50 JACKSON	3	11.09	15	11.15	9.83
51 JOHNSTON	15	18.59	50	12.81	12.72
52 JONES	4	40.62	12	24.33	19.44
53 LEE	6	14.30	39	19.08	18.99
54 LENOIR	17	28.19	72	23.83	23.28
55 LINCOLN	5	10.29	47	20.25	22.63
56 MCDOWELL	9	24.76	38	20.94	23.32
57 MACON	9	38.45	45	38.94	20.12
58 MADISON	5	29.01	12	13.91	8.41
59 MARTIN	7	26.49	32	24.14	21.05
60 MECKLENBURG	72	15.12	414	18.24	20.83
61 MITCHELL	5	34.01	19	26.13	16.01
62 MONTGOMERY	9	37.23	35	29.22	26.94
63 MOORE	26	43.83	83	29.43	21.46
64 NASH	13	17.87	61	17.07	16.34
65 NEW HANOVER	33	28.10	166	29.08	30.43
66 NORTHAMPTON	7	31.66	24	21.42	18.19
67 ONSLOW	12	9.56	61	9.86	23.01
68 ORANGE	15	16.95	65	15.38	20.43
69 PAMLICO	6	54.64	22	40.30	31.94
70 PASQUOTANK	10	32.59	46	30.67	26.94
71 PENDER	2	7.38	25	19.69	18.65
72 PERQUIMANS	5	45.31	18	34.28	24.74
73 PERSON	4	12.72	23	14.99	12.89
74 PITT	16	15.68	76	15.48	17.45
75 POLK	5	33.96	26	35.75	17.22
76 RANDOLPH	14	13.62	108	21.77	23.77
77 RICHMOND	6	13.08	43	18.82	16.69
78 ROBESON	15	13.88	86	16.13	16.59
79 ROCKINGHAM	14	16.18	73	17.04	16.03
80 ROWAN	29	27.22	135	25.92	21.50
81 RUTHERFORD	19	32.86	64	22.39	20.67
82 SAMPSON	12	23.57	50	19.79	17.80
83 SCOTLAND	6	17.29	25	14.70	15.92
84 STANLY	13	25.46	69	27.40	23.79
85 STOKES	5	13.70	22	12.31	12.80
86 SURRY	17	27.37	63	20.54	19.72
87 SWAIN	2	19.01	14	26.30	23.46
88 TRANSYLVANIA	8	30.54	25	19.48	18.24
89 TYRRELL	2	48.84	7	34.05	27.28
90 UNION	17	20.23	78	19.48	22.18
91 VANCE	15	38.19	50	25.85	22.89
92 WAKE	67	17.24	298	16.36	21.60
93 WARREN	1	6.01	14	16.98	11.17
94 WASHINGTON	2	13.66	19	26.11	22.98
95 WATAUGA	5	14.42	19	11.07	10.49
96 WAYNE	17	17.23	102	20.76	23.48
97 WILKES	8	13.02	50	16.41	14.79
98 WILSON	14	21.34	53	16.33	16.20
99 YADKIN	3	9.89	27	18.18	14.10
100 YANCEY	5	31.22	17	21.55	13.91

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

CANCER - COLON, RECTUM AND ANUS

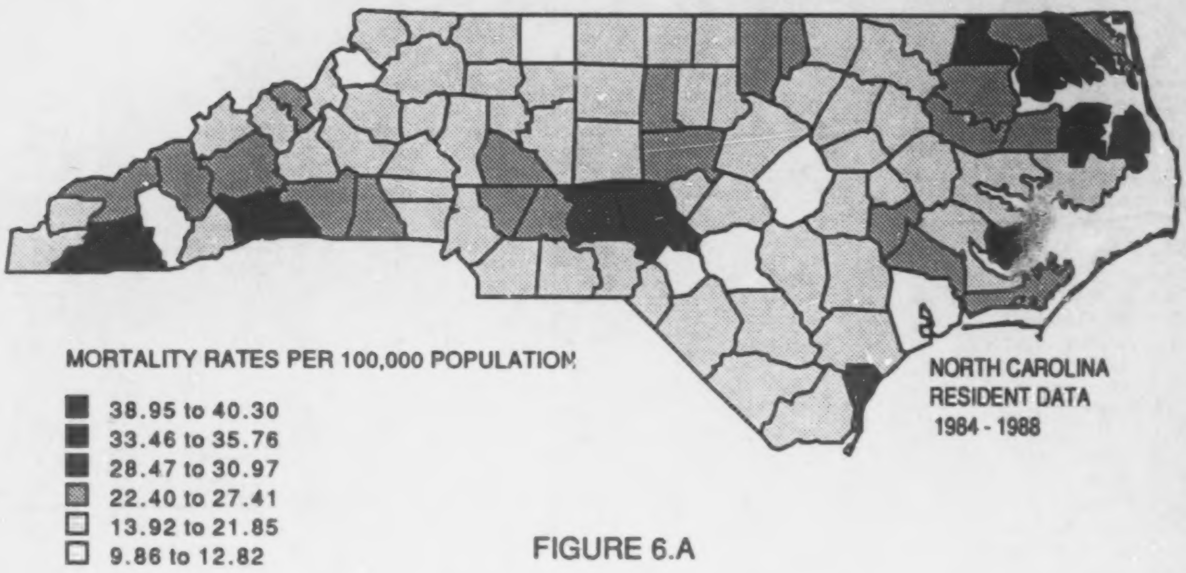

MORTALITY RATES PER 100,000 POPULATION
■ 38.95 to 40.30
■ 33.46 to 35.76
■ 28.47 to 30.97
▨ 22.40 to 27.41
☐ 13.92 to 21.85
☐ 9.86 to 12.82
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 6.A

CANCER - COLON, RECTUM AND ANUS

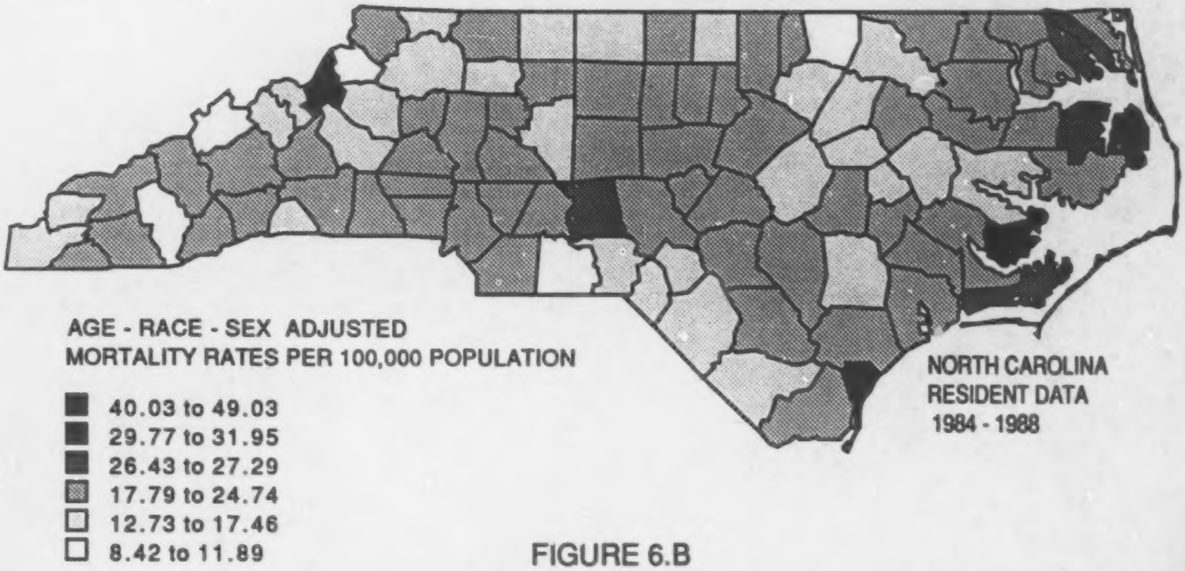

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 40.03 to 49.03
■ 29.77 to 31.95
■ 26.43 to 27.29
▨ 17.79 to 24.74
☐ 12.73 to 17.46
☐ 8.42 to 11.89
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 6.B

CANCER OF THE TRACHEA, BRONCHUS, AND LUNG

Lung cancer is the leading cause of cancer death in both men and women in the United States (13). The incidence rate for this cancer continues to increase nationwide in both males and females, black and white. Lung cancer deaths among American women have now surpassed the number of breast cancer deaths. (2) Among North Carolina residents in 1988 there were 1,058 female deaths due to lung cancer while 1,093 women died of breast cancer. Thus, lung cancer deaths among women are rapidly approaching the number due to breast cancer. This increase in deaths is larger than for any other cancer site. There have been increases in both incidence and death for every group with women increasing more rapidly. (14)

In 1988, a total of 3,669 North Carolinians died from lung cancer. This accounted for 28.9 percent of the state's cancer deaths and 6.4 percent of all deaths. The mortality rate in 1988 was 56.6 deaths per 100,000 population. This was a six percent increase over the 1987 mortality rate; however, the age-adjusted rate increase was a third lower at 3.9 percent.

The five-year age-adjusted mortality rate (1984-88) was 12.2 percent higher than that for the preceding five-year period (1979-83). All race-sex groups experienced increases over this time period, with the greatest increase in white females whose rate rose by one-third. In 1986, North Carolina had the 27th highest age-adjusted mortality rate in the nation (15). This North Carolina rate was 0.6% less than that for the U. S.

During 1984-88, North Carolina's age-adjusted death rates were over three times higher for white males than for white females and almost six times higher for nonwhite males than for nonwhite females. Thus, there is a wide sex differential in mortality risk. The 1984-88 nonwhite male rate was 23 percent higher than that for white males, while the nonwhite female rate was 31 percent below that for white females.

In North Carolina, lung cancer deaths are not generally found prior to age 45 with the number of deaths peaking at ages 65-74. The death rate also peaks at ages 65-74 except among white males whose peak occurs at ages 75-84 (3).

Lung cancer is very difficult to detect early since symptoms often don't appear until the disease has advanced considerably. Only 24 percent of lung cancer cases are detected at the early (localized) stage. For this reason, only 13 percent of lung cancer patients (all stages, whites and blacks) live five or more years after diagnosis. (13)

The major risk factor for the development of lung cancer is cigarette smoking. Tobacco is responsible for 83 percent of lung cancer cases overall, 85 percent among men and 75 percent among women (16). To date, 43 chemicals in tobacco smoke have been determined to be carcinogenic (13).

Certain industrial substances such as asbestos, radon decay products, and other risk factors for lung cancer have been found to interact with smoking to produce even higher risk estimates (17). Air pollution has been estimated to be the cause of 1 to 2 percent of lung cancer cases (18). Indoor air pollution, mainly in the form of tobacco smoke and radon, have been linked causally to lung cancer (6). Diet has recently been considered as potentially influencing the risk of lung cancer in smokers, in particular deficiencies in vitamin A, carotene, vitamin E, and vitamin

C (19). Clinical trials on vitamin A and lung cancer risk are now in progress. Finally, exposure to radiation and familial factors have been suggested to affect lung cancer risk (18).

GEOGRAPHIC PATTERNS

During 1984-88 residents of eastern North Carolina experienced higher lung cancer mortality prior to and after adjustment for age, race and sex distribution (Figures 7.A and 7.B, respectively). However, there were no statistically significant clustering patterns. This contrasts sharply with significant clustering of the unadjusted and adjusted rates during 1979-81 (5).

TABLE - 8

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CANCER - TRACHEA, BRONCHUS AND LUNG

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	3669	56.55	16344	51.65	51.65
REGIONS					
DHR I WESTERN	1275	57.34	5737	52.94	49.73
DHR II N. CENTRAL	779	57.13	3465	51.94	49.20
DHR III S. CENTRAL	789	51.47	3412	45.94	53.64
DHR IV EASTERN	826	60.39	3730	55.60	57.57
HSA I WESTERN	639	58.32	2917	54.10	47.33
HSA II PIEDMONT	694	57.75	3011	51.16	49.10
HSA III S. PIEDMONT	636	56.38	2820	51.79	52.25
HSA IV CAPITAL	482	49.71	2180	47.07	52.64
HSA V CARDINAL	563	57.86	2439	51.04	56.69
HSA VI EASTERN	655	58.49	2977	54.01	56.64
COUNTIES					
1 ALAMANCE	70	66.09	301	58.15	48.26
2 ALEXANDER	11	39.90	41	30.46	30.57
3 ALLEGHANY	5	50.92	37	75.73	68.87 *
4 ANSON	14	53.35	77	58.71	52.51
5 ASHE	9	38.31	65	55.69	49.95
6 AVERY	8	52.44	47	62.35	47.75
7 BEAUFORT	30	70.70	133	62.85	57.09
8 BERTIE	9	42.77	63	59.43	48.34
9 BLADEN	19	61.42	86	55.80	51.40
10 BRUNSWICK	36	70.64	172	72.42	65.25
11 BUNCOMBE	116	66.97	539	63.47	53.97
12 BURKE	48	62.08	179	47.08	44.28
13 CABARRUS	49	51.07	261	55.84	51.53
14 CALDWELL	53	74.17	173	49.21	45.02
15 CAMDEN	6	99.05	19	64.32	57.53
16 CARTERET	44	86.21	170	69.01	61.44
17 CASWELL	13	58.57	46	41.36	36.12
18 CATAWBA	62	52.83	290	50.82	50.09
19 CHATHAM	29	78.94	106	59.07	52.90
20 CHEROKEE	10	47.20	60	58.44	61.64
21 CHOWAN	12	87.62	52	77.92	60.18
22 CLAY	3	41.24	18	50.34	27.18
23 CLEVELAND	45	51.65	220	51.13	48.32
24 COLUMBUS	38	72.29	157	60.01	57.18
25 CRAVEN	39	47.80	150	37.56	46.65
26 CUMBERLAND	111	43.59	467	36.64	64.13
27 CURRITUCK	19	135.84	60	89.59	83.16
28 DARE	18	83.87	63	67.26	61.09
29 DAVIDSON	66	53.09	284	46.82	45.92
30 DAVIE	17	61.05	57	42.29	44.73
31 DUPLIN	22	52.81	119	57.19	51.53
32 DURHAM	85	49.56	415	50.17	56.02
33 EDGECOMBE	40	66.79	168	57.02	60.21
34 FORSYTH	134	50.30	645	49.43	48.51
35 FRANKLIN	18	50.78	102	60.31	52.88
36 GASTON	122	70.03	505	58.76	59.28
37 GATES	7	71.50	42	88.15	68.68
38 GRAHAM	5	71.25	28	78.50	57.72
39 GRANVILLE	16	41.05	91	48.48	44.84
40 GREENE	12	73.23	51	61.87	67.14
41 GUILFORD	183	54.32	867	52.49	52.16

* SEE SECTION II : RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CANCER - TRACHEA, BRONCHUS AND LUNG CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	33	58.05	172	61.11	56.66
43 HARNETT	45	67.88	162	50.55	54.46
44 HAYWOOD	32	66.29	151	62.82	43.08
45 HENDERSON	47	67.86	203	60.64	45.47
46 HERTFORD	24	101.39	79	66.24	60.55
47 HOKE	16	66.74	56	48.42	65.50
48 HYDE	3	52.84	22	75.22	64.49
49 IREDELL	46	50.22	218	49.11	43.73
50 JACKSON	11	40.66	52	38.67	36.63
51 JOHNSTON	47	58.26	223	57.16	54.49
52 JONES	9	91.39	27	54.76	43.62
53 LEE	28	66.76	105	51.38	52.52
54 LENOIR	38	63.02	196	64.87	60.44
55 LINCOLN	26	53.51	103	44.38	46.99
56 MCDOWELL	26	71.54	104	57.33	47.71
57 MACON	15	64.09	67	57.98	57.77
58 MADISON	13	75.44	44	51.02	54.74 *
59 MARTIN	15	56.78	75	56.58	52.16
60 MECKLENBURG	248	52.09	1115	49.13	56.21
61 MITCHELL	7	47.62	44	60.52	37.03
62 MONTGOMERY	15	62.05	55	45.93	41.60
63 MOORE	52	87.66	207	73.41	55.13
64 NASH	38	52.24	186	52.07	51.53
65 NEW HANOVER	75	63.87	350	61.31	63.68
66 NORTHAMPTON	12	54.27	56	49.98	44.24
67 ONSLOW	42	33.46	180	29.09	58.74
68 ORANGE	34	38.42	147	34.78	47.10
69 PAMLICO	8	72.85	42	76.94	63.41
70 PASQUOTANK	23	74.97	109	72.67	68.43
71 PENDER	22	81.23	74	58.31	50.73
72 PERQUIMANS	6	54.38	29	55.22	41.23
73 PERSON	12	38.18	80	52.16	47.53
74 PITT	54	52.93	217	44.20	54.66
75 POLK	9	61.13	49	67.38	46.26
76 RANDOLPH	60	58.39	237	47.77	45.72
77 RICHMOND	22	47.97	118	51.67	46.76
78 ROBESON	53	49.06	255	47.84	59.67
79 ROCKINGHAM	68	78.62	233	54.40	50.30
80 ROWAN	62	58.20	294	56.46	45.44
81 RUTHERFORD	20	34.59	152	53.19	44.76
82 SAMPSON	33	64.84	137	54.23	49.83
83 SCOTLAND	12	34.58	66	38.81	45.97
84 STANLY	38	74.44	136	54.02	50.37
85 STOKES	20	54.81	89	49.80	57.64
86 SURRY	48	77.28	187	60.98	57.00
87 SWAIN	9	85.56	28	52.61	45.54
88 TRANSYLVANIA	19	72.55	76	59.22	59.97
89 TYRRELL	3	73.26	18	87.56	85.10
90 UNION	45	53.56	188	46.96	54.91
91 VANCE	26	66.20	123	63.59	60.81
92 WAKE	174	44.78	730	40.08	53.43
93 WARREN	13	78.19	58	70.35	62.40
94 WASHINGTON	9	61.47	42	57.72	53.52
95 WATAUGA	18	51.91	56	32.62	41.58
96 WAYNE	47	47.65	261	53.13	60.14
97 WILKES	25	40.69	140	45.96	45.92
98 WILSON	33	50.31	176	54.26	54.94
99 YADKIN	15	49.46	65	43.76	33.41
100 YANCEY	13	81.19	54	68.46	45.58

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

CANCER - TRACHEA, BRONCHUS AND LUNG

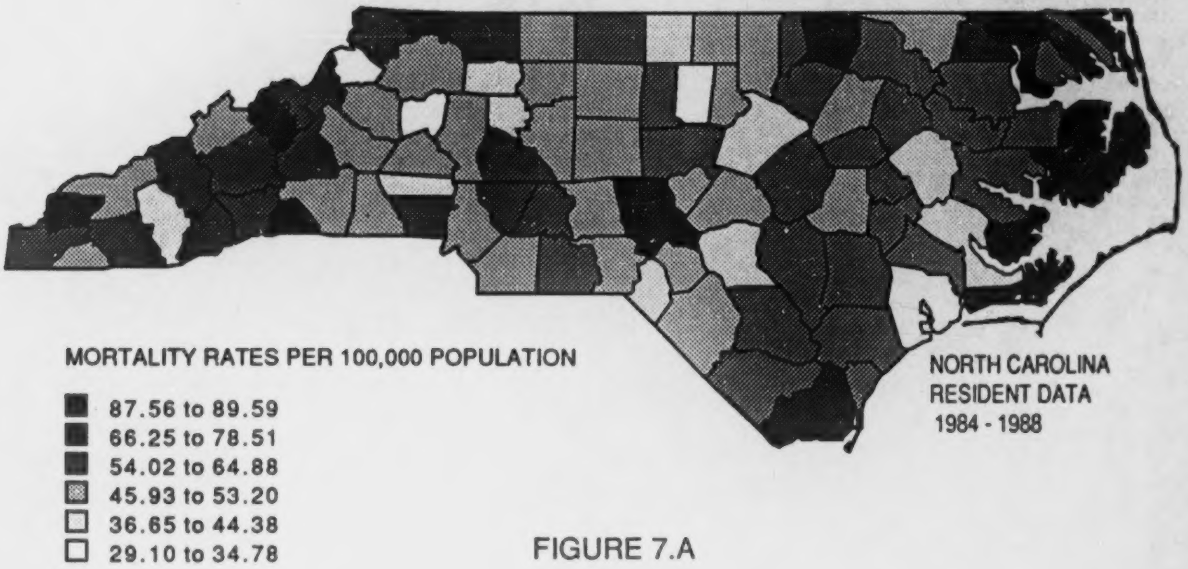

MORTALITY RATES PER 100,000 POPULATION
■ 87.56 to 89.59
■ 66.25 to 78.51
■ 54.02 to 64.88
▨ 45.93 to 53.20
□ 36.65 to 44.38
□ 29.10 to 34.78
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 7.A

CANCER - TRACHEA, BRONCHUS AND LUNG

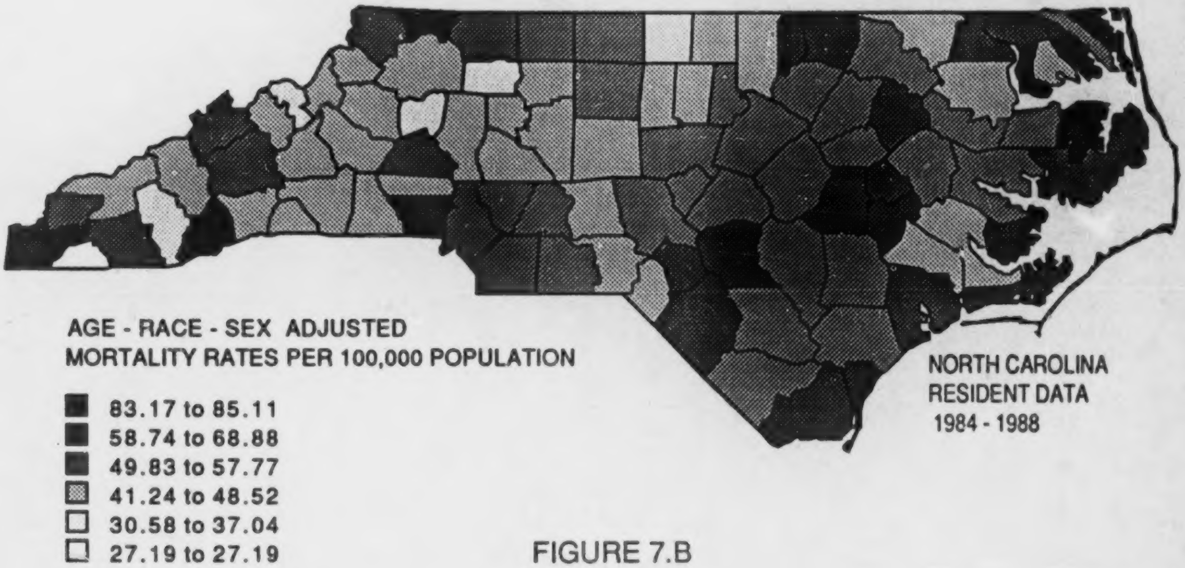

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 83.17 to 85.11
■ 58.74 to 68.88
■ 49.83 to 57.77
▨ 41.24 to 48.52
□ 30.58 to 37.04
□ 27.19 to 27.19
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 7.B

CANCER OF THE FEMALE BREAST

Breast cancer is the second leading cause of cancer death in American women (2). It is estimated that there will be 142,900 new breast cancer cases and more than 453,300 deaths in the United States in 1989 (20). According to the American Cancer Society, one in 10 American women will develop the disease in her lifetime (2).

Several risk factors for breast cancer have been consistently identified. They include: older age, upper socioeconomic class, never having been married, urban residence, residence in the Northern U.S., white race, late age at first full-term pregnancy, early menarche, late menopause, family history of a primary cancer of the ovary or endometrium. Artificial menopause has been shown to exert a protective effect. Additional research into breast cancer etiology is needed as only 25 percent of the current breast cancer burden can be explained by known risk factors. Current areas of research include alcohol consumption, oral contraceptive use, mammographic parenchymal patterns, hormone replacement therapy, and high-fat diet. (21)

Between 1975 and 1985, there was a 17 percent increase in the incidence of breast cancer in the National Cancer Institute's population-based Surveillance, Epidemiology and End Results (SEER) program (4). The 1985 age-adjusted incidence rate for white women was 19 percent higher than that for black women. Mortality rates over the same period remained essentially stable for white women while increasing at an average annual rate of less than one percent for black women (14).

Survival rates for breast cancer in the SEER areas improved slightly between 1975 and 1985. Overall five-year relative survival rates for all stages of breast cancer for the period 1979-84 were 75 percent and 62 percent for white and black women, respectively. (14) For localized breast cancer, there was a less radical difference in survival. For white women, the five-year survival rate was 90 percent and for black women, 87 percent (21). An improved survival rate has stabilized the mortality rate, despite the increased incidence (2).

In 1988, a total of 1,093 North Carolina women died of breast cancer, still the leading cause of cancer deaths in N.C. females. This accounted for 8.6 percent of the state's cancer deaths. The 1988 mortality rate was 32.5 deaths per 100,000 female population which represents a 6.1 percent increase over 1987. However, there was virtually no change in the age-adjusted death rate.

The five-year (1984-88) age-adjusted rate was 11.2 percent higher than in 1979-83. The rate for whites increased 8.4 percent while that for nonwhites rose 23.3 percent. In 1986, North Carolina had the 25th highest age-adjusted mortality in the nation (22). This rate was 2.4 percent less than that for the U.S.

In North Carolina, breast cancer deaths rarely occur prior to age 35 in both white and nonwhite women, and the number peaks at ages 55-64 for both race groups. For both races, the death rate is highest at ages 85 and older (3).

GEOGRAPHIC PATTERNS

During the period 1984-88, no statistically significant clusters of high rates were observed, although moderate rates did occur in some contiguous counties (Figures 8.A and 8.B). Users should consult these maps to ascertain a county's relative level of unadjusted and age-race-sex-adjusted mortality from female breast cancer.

TABLE - 9

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CANCER - BREAST - FEMALE

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1093	32.48	5107	31.18	31.16
REGIONS					
DHR I WESTERN	407	35.17	1833	32.54	30.93
DHR II N. CENTRAL	233	32.58	1132	32.40	30.99
DHR III S. CENTRAL	237	29.99	1087	28.46	31.93
DHR IV EASTERN	216	30.77	1055	30.72	30.53
HSA I WESTERN	189	33.23	910	32.55	28.82
HSA II PIEDMONT	203	32.17	1004	32.54	31.63
HSA III S. PIEDMONT	218	37.03	923	32.52	32.59
HSA IV CAPITAL	150	29.72	699	29.04	31.19
HSA V CARDINAL	145	29.04	707	28.92	31.57
HSA VI EASTERN	188	32.84	864	30.74	30.45
COUNTIES					
1 ALAMANCE	12	21.34	83	30.30	26.75
2 ALEXANDER	1	7.19	15	22.09	23.85
3 ALLEGHANY	2	39.36	8	31.62	20.72
4 ANSON	3	21.23	26	36.94	35.03
5 ASHE	5	41.26	20	33.24	23.46
6 AVERY	3	38.89	10	26.28	20.79
7 BEAUFORT	8	35.69	35	31.35	28.51
8 BERTIE	2	17.79	21	37.16	32.57
9 BLADEN	4	24.78	18	22.44	20.76
10 BRUNSWICK	7	26.78	33	27.16	27.26
11 BUNCOMBE	30	32.78	156	34.80	28.87
12 BURKE	15	37.70	62	31.72	33.83
13 CABARRUS	26	51.89	106	43.47	39.33
14 CALDWELL	13	35.51	48	26.66	28.32
15 CAMDEN	2	64.43	8	52.76	45.77
16 CARTERET	8	31.10	41	33.05	34.19
17 CASWELL	3	26.48	12	21.19	21.95
18 CATAWBA	16	26.30	93	31.46	31.30
19 CHATHAM	5	26.50	23	25.03	23.57
20 CHEROKEE	5	45.19	16	29.88	20.81
21 CHOWAN	3	40.37	19	52.76	46.83
22 CLAY	1	27.27	9	49.93	32.95
23 CLEVELAND	18	39.43	79	35.12	32.66
24 COLUMBUS	6	21.70	38	27.70	28.25
25 CRAVEN	14	34.84	54	27.55	32.21
26 CUMBERLAND	32	25.86	134	21.76	31.70
27 CURRITUCK	5	73.01	10	30.52	29.98
28 DARE	2	18.51	14	29.70	24.98
29 DAVIDSON	26	40.48	102	32.61	35.23
30 DAVIE	10	70.64	30	43.79	51.92
31 DUPLIN	4	18.25	31	28.40	25.42
32 DURHAM	37	40.15	157	35.39	36.41
33 EDGECOMBE	17	52.32	53	33.30	32.00
34 FORSYTH	47	33.20	227	32.78	31.61
35 FRANKLIN	6	32.25	21	23.72	21.03
36 GASTON	25	27.31	114	25.29	24.96
37 GATES	2	40.46	9	37.51	26.73
38 GRAHAM	1	28.26	2	11.10	8.20
39 GRANVILLE	5	25.43	17	17.96	14.54
40 GREENE	3	35.57	9	21.22	21.25
41 GUILFORD	53	29.66	288	32.91	32.45

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CANCER - BREAST - FEMALE CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	8	26.81	44	29.84	23.34
43 HARNETT	18	52.82	55	33.43	35.74
44 HAYWOOD	9	35.91	46	36.91	45.92
45 HENDERSON	21	57.94	81	46.29	37.58
46 HERTFORD	4	32.11	22	35.16	26.59
47 HOKE	2	16.08	11	18.42	24.96
48 HYDE	0	0.00	4	26.63	21.87
49 IREDELL	20	42.06	86	37.34	35.03
50 JACKSON	3	21.36	21	30.20	28.25
51 JOHNSTON	11	26.16	53	26.10	24.31
52 JONES	2	37.41	10	37.59	25.59
53 LEE	7	31.70	35	32.61	32.69
54 LENOIR	7	21.78	50	31.12	28.90
55 LINCOLN	8	32.15	30	25.26	29.60
56 MCDOWELL	4	21.31	14	14.94	14.10
57 MACON	8	65.67	23	38.35	22.61
58 MADISON	3	34.29	14	31.93	23.45
59 MARTIN	5	35.51	21	29.82	29.87
60 MECKLENBURG	93	37.30	391	32.93	35.85
61 MITCHELL	0	0.00	10	26.77	18.54
62 MONTGOMERY	4	32.38	26	42.51	39.02
63 MOORE	19	61.60	71	48.47	39.96
64 NASH	15	38.99	62	32.88	31.24
65 NEW HANOVER	15	24.29	95	31.66	32.52
66 NORTHAMPTON	6	53.05	29	50.69	43.01
67 ONSLOW	8	15.31	46	17.95	27.81
68 ORANGE	8	17.24	49	22.12	30.22
69 PAMLICO	1	17.39	4	14.00	13.70
70 PASQUOTANK	4	24.86	21	26.77	25.51
71 PENDER	0	0.00	25	38.35	35.56
72 PERQUIMANS	2	34.22	9	32.47	26.85
73 PERSON	8	48.62	25	31.22	27.62
74 PITT	17	31.30	78	29.89	34.78
75 POLK	1	12.89	13	33.95	20.40
76 RANDOLPH	16	30.14	80	31.28	34.51
77 RICHMOND	10	41.62	40	33.46	30.18
78 ROBESON	13	22.69	58	20.59	26.08
79 ROCKINGHAM	12	26.54	79	35.31	33.10
80 ROWAN	24	43.35	91	33.67	29.55
81 RUTHERFORD	6	19.74	55	36.69	27.61
82 SAMPSON	6	22.55	43	32.60	30.98
83 SCOTLAND	6	32.88	34	38.06	42.84
84 STANLY	9	33.79	46	35.09	33.59
85 STOKES	4	21.37	24	26.20	23.62
86 SURRY	14	43.33	51	32.00	29.45
87 SWAIN	1	18.02	6	21.48	19.57
88 TRANSYLVANIA	10	74.41	31	47.23	41.66
89 TYRRELL	2	91.61	6	54.87	48.91
90 UNION	13	30.08	59	28.69	32.27
91 VANCE	5	24.17	46	45.23	42.58
92 WAKE	52	26.15	254	27.28	33.00
93 WARREN	6	68.27	19	43.78	35.16
94 WASHINGTON	3	39.23	12	31.67	25.36
95 WATAUGA	9	50.70	37	42.13	40.26
96 WAYNE	23	44.82	83	32.59	33.89
97 WILKES	3	9.53	26	16.68	13.87
98 WILSON	11	31.38	59	34.13	33.54
99 YADKIN	6	38.82	28	36.99	27.36
10 YANCEY	1	12.11	15	36.96	61.84

* SEE SECTION II

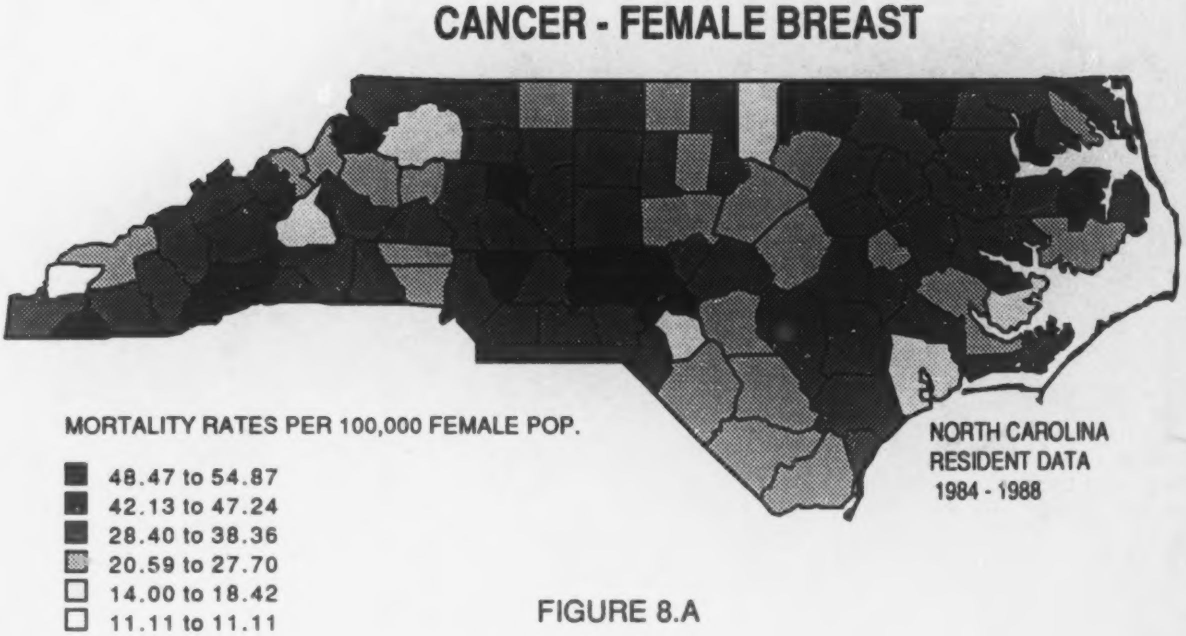

CANCER - FEMALE BREAST
MORTALITY RATES PER 100,000 FEMALE POP.
48.47 to 54.87
42.13 to 47.24
28.40 to 38.36
20.59 to 27.70
14.00 to 18.42
11.11 to 11.11
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 8.A

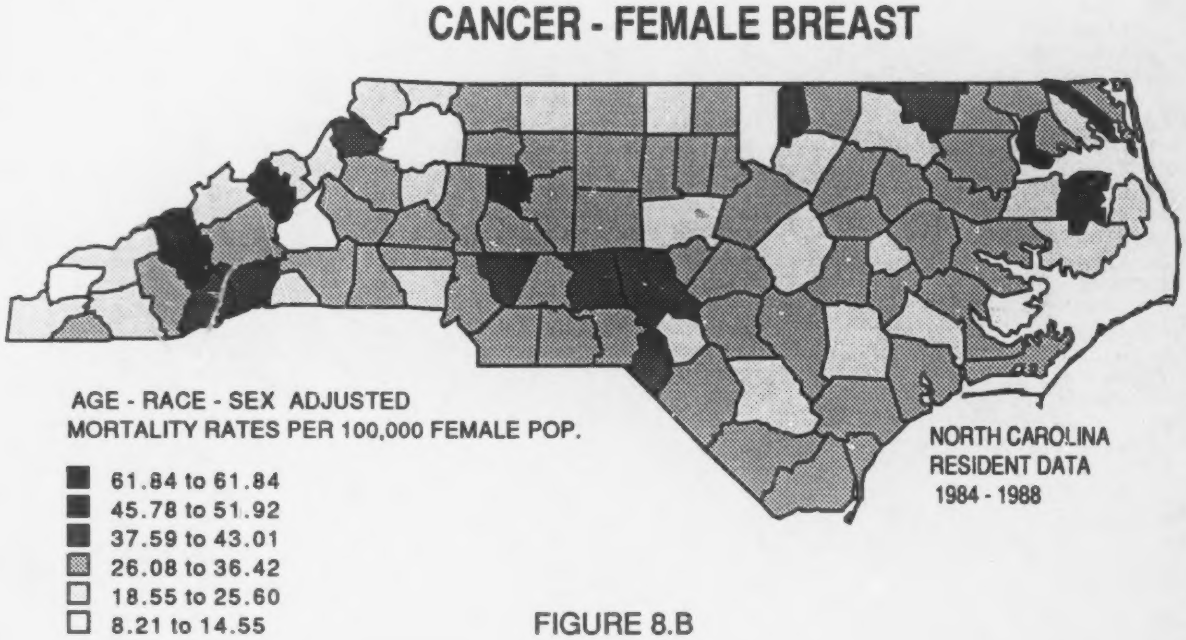

CANCER - FEMALE BREAST
AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 FEMALE POP.
61.84 to 61.84
45.78 to 51.92
37.59 to 43.01
26.08 to 36.42
18.55 to 25.60
8.21 to 14.55
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 8.B

CANCER OF THE PROSTATE

Prostate cancer is a major cause of morbidity and mortality among males in the United States, with almost one out of 11 men developing the disease during his lifetime. In North Carolina during 1989 alone, an estimated 2,700 new cases will be diagnosed. (2) The death rate for this disease changes dramatically with age, increasing over one-hundred fold between ages 50 and 80. It is also much higher in blacks than whites. In fact, blacks in certain regions of North Carolina have some of the highest prostate cancer mortality rates in the world. The high rate among blacks may be related to genetic or environmental factors as well as to health care access or quality issues. (23)

Despite the importance of this disease, little is known about its cause. Studies examining hormonal, social, and sexual factors have yielded uniformly unimpressive results. Certain occupations, such as farming, have been associated with an increased risk of developing prostate cancer as has exposure to cadmium. The roles of dietary factors, sunlight, and farming are currently under study. (24)

No screening methods have been proven effective for prostate cancer. Currently several methods, including tests for acid phosphates, prostate-specific antigen, and prostatic ultrasound, are under investigation. Treatment for prostate cancer relies upon surgical removal of early-stage disease. Once the disease has spread, hormonal therapy has only a palliative role although recent studies of new hormonal analogues are promising. (25)

In 1988, a total of 839 North Carolina men died of prostate cancer. This accounted for 6.6 percent of the state's cancer deaths and 1.5 percent of all deaths. The mortality rate in 1988 was 26.9 deaths per 100,000 male population which represents a six percent increase over the 1987 mortality rate. The 1988 age-adjusted rate was four percent above the 1987 level.

The five-year age-adjusted mortality rate (1984-88) was essentially unchanged from that of the preceding five-year period (1979-83). However, there was a 10 percent increase among nonwhites.

The nonwhite age-adjusted rate for prostate cancer in 1984-88 approached three times the white rate. Therefore, a wide race differential exists in North Carolina as elsewhere.

In North Carolina, prostate cancer deaths among persons under age 55 are relatively rare. For ages 65-74, the rate is 131.4 deaths per 100,000 male population. The rate nearly triples for ages 75-84, and peaks at 610.7 at ages 85 and older. (3)

GEOGRAPHIC PATTERNS

Following the procedures described in Section II, a few significant clusters of high-rate counties are identified when the 1984-88 unadjusted death rates are mapped, as shown on the following page. The clustering of high-rate counties in the northeast is striking. However, with race and age adjustment, no significant clusters are found. These results are apparent in Figures 9.A and 9.B which show unadjusted and adjusted rate levels respectively for each county. All counties are encouraged to consult these figures to determine their relative levels of unadjusted and age-race-adjusted mortality from prostate cancer.

CANCER - PROSTATE

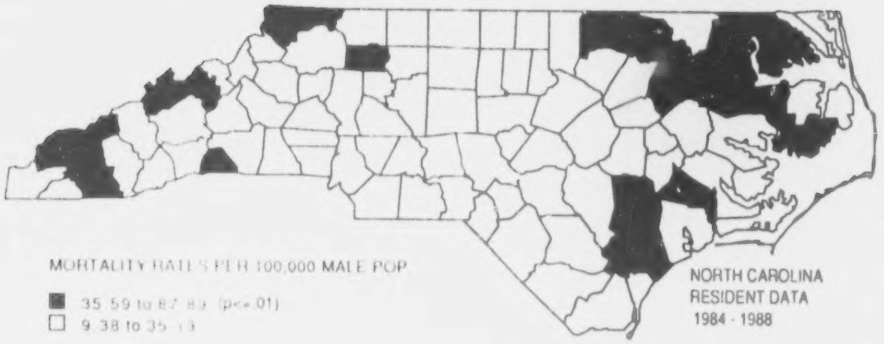

MORTALITY RATES PER 100,000 MALE POP
■ 35.59 to 87.89 (p<=.01)
☐ 9.38 to 35.13
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

TABLE-10

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CANCER - PROSTATE

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	839	26.86	3736	24.47	24.47
REGIONS					
DHR I WESTERN	297	27.85	1254	24.09	24.09
DHR II N. CENTRAL	203	31.31	822	25.87	24.78
DHR III S. CENTRAL	147	19.79	765	21.20	23.73
DHR IV EASTERN	192	28.83	895	27.33	24.97
HSA I WESTERN	160	30.36	661	25.45	23.59
HSA II PIEDMONT	161	28.21	689	24.61	24.83
HSA III S. PIEDMONT	137	25.40	593	22.74	24.54
HSA IV CAPITAL	123	26.45	509	22.88	23.76
HSA V CARDINAL	103	21.74	557	23.86	24.78
HSA VI EASTERN	155	28.32	727	26.91	24.39
COUNTIES					
1 ALAMANCE	20	40.25	68	27.90	25.56
2 ALEXANDER	2	14.63	12	17.99	23.03
3 ALLEGHANY	3	63.31	10	42.44	23.41
4 ANSON	0	0.00	16	26.33	19.76
5 ASHE	5	43.97	26	45.96	25.55
6 AVERY	2	26.52	7	18.75	13.97
7 BEAUFORT	5	24.97	33	33.00	23.16
8 BERTIE	2	20.41	18	36.36	22.58
9 BLADEN	5	33.79	23	31.11	24.37
10 BRUNSWICK	9	36.25	31	26.72	24.70
11 BUNCOMBE	34	41.61	112	27.93	23.49
12 BURKE	8	21.31	31	16.77	16.66
13 CABARRUS	4	8.72	25	11.18	10.92
14 CALDWELL	3	8.60	38	22.15	30.06
15 CAMDEN	0	0.00	2	13.91	10.63
16 CARTERET	9	35.54	34	27.80	30.13
17 CASWELL	3	27.60	15	27.47	23.91
18 CATAWBA	10	17.69	41	14.90	18.55
19 CHATHAM	5	27.97	28	31.98	25.04
20 CHEROKEE	3	29.63	9	18.32	9.75
21 CHOWAN	11	175.57	27	87.89	48.10
22 CLAY	0	0.00	3	16.91	8.31
23 CLEVELAND	14	33.75	55	26.78	25.52
24 COLUMBUS	9	36.12	42	33.75	28.97
25 CRAVEN	4	9.65	21	10.32	12.56
26 CUMBERLAND	12	9.16	80	12.14	25.18
27 CURRITUCK	2	28.01	12	35.07	35.58
28 DARE	3	28.15	12	25.79	17.74
29 DAVIDSON	4	6.65	39	13.27	17.46
30 DAVIE	7	51.13	16	24.14	27.12
31 DUPLIN	6	30.38	40	40.43	30.93
32 DURHAM	26	32.77	101	26.33	23.25
33 EDGECOMBE	15	54.75	58	42.82	37.79
34 FORSYTH	34	27.24	171	27.92	27.23
35 FRANKLIN	5	29.68	23	28.52	18.55
36 GASTON	20	24.19	87	21.28	25.87
37 GATES	3	61.88	10	42.27	20.70
38 GRAHAM	7	201.20	9	50.95	26.38
39 GRANVILLE	5	25.88	20	21.48	12.86
40 GREENE	2	25.14	5	12.49	6.90
41 GUILFORD	47	29.71	201	25.88	25.80

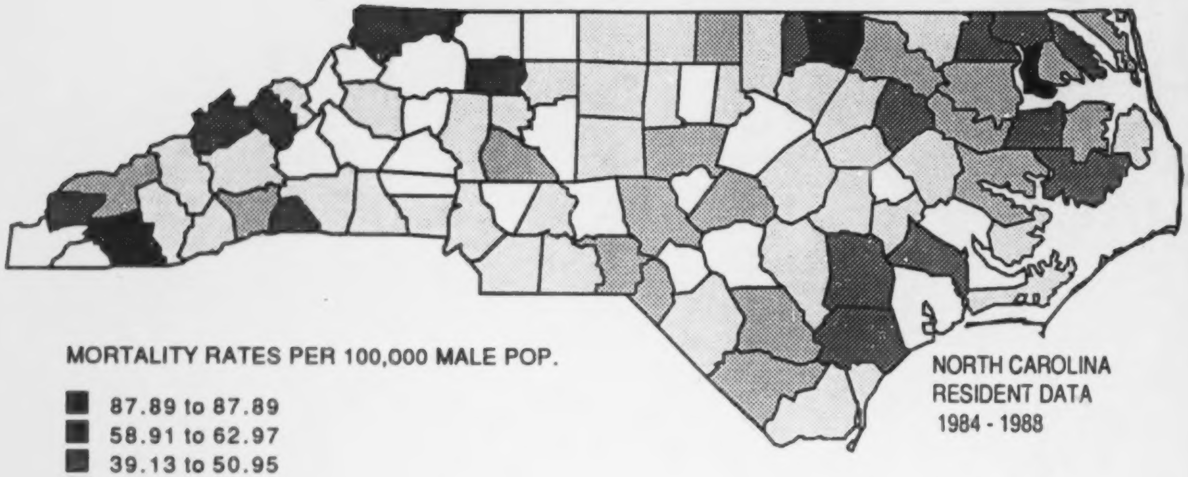
* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CANCER - PROSTATE CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	10	37.03	48	35.81	22.51
43 HARNETT	11	34.14	50	32.05	35.35
44 HAYWOOD	4	17.23	26	22.46	24.35
45 HENDERSON	14	42.40	56	35.05	34.68
46 HERTFORD	7	62.41	28	49.39	25.89
47 HOKE	4	34.66	10	17.87	20.93
48 HYDE	1	36.17	6	42.17	33.47
49 IREDELL	13	29.51	56	26.22	23.90
50 JACKSON	6	46.12	15	23.10	18.85
51 JOHNSTON	10	25.88	53	28.33	28.51
52 JONES	0	0.00	10	44.04	23.35
53 LEE	3	15.10	19	19.58	20.09
54 LENOIR	5	17.75	33	23.32	18.77
55 LINCOLN	4	16.86	18	15.88	14.12
56 MCDOWELL	4	22.76	17	19.37	22.49
57 MACON	8	71.28	35	62.97	57.77 *
58 MADISON	5	58.93	19	44.82	69.56 *
59 MARTIN	7	56.73	23	37.01	24.76
60 MECKLENBURG	60	26.46	240	22.17	26.85
61 MITCHELL	2	27.97	8	22.63	11.83
62 MONTGOMERY	2	16.92	11	18.77	16.04
63 MOORE	3	10.53	41	30.26	19.66
64 NASH	7	20.42	45	26.67	25.66
65 NEW HANOVER	14	25.14	67	24.74	26.71
66 NORTHAMPTON	0	0.00	13	23.70	13.43
67 ONSLOW	2	2.73	34	9.37	29.44
68 ORANGE	6	14.25	37	18.39	22.15
69 PAMLICO	2	[illegible].22	7	26.90	18.26
70 PASQUOTANK	10	68.54	26	39.13	28.92
71 PENDER	5	38.06	28	45.36	28.31
72 PERQUIMANS	5	96.33	9	36.29	16.85
73 PERSON	8	53.43	23	31.38	26.49
74 PITT	8	16.77	55	23.91	23.22
75 POLK	3	43.07	17	49.37	26.03
76 RANDOLPH	14	28.17	50	20.80	23.85
77 RICHMOND	6	27.47	34	31.23	25.31
78 ROBESON	8	15.76	64	25.46	18.76
79 ROCKINGHAM	12	29.06	56	27.37	25.13
80 ROWAN	14	27.36	88	35.13	27.35
81 RUTHERFORD	14	51.04	37	27.24	22.23
82 SAMPSON	7	28.82	34	28.16	21.46
83 SCOTLAND	8	48.60	26	32.20	34.14
84 STANLY	10	40.95	35	29.00	26.43
85 STOKES	4	22.50	15	17.21	19.65
86 SURRY	7	23.48	29	19.68	18.06
87 SWAIN	2	40.24	9	35.59	23.20
88 TRANSYLVANIA	1	7.84	17	27.11	16.48
89 TYRRELL	0	0.00	3	31.17	17.69
90 UNION	12	29.41	44	22.60	26.85
91 VANCE	17	91.45	44	47.96	32.65
92 WAKE	31	16.34	138	15.50	22.75
93 WARREN	7	89.31	23	58.91	25.67
94 WASHINGTON	2	28.60	15	43.00	34.63
95 WATAUGA	0	0.00	10	11.93	9.59
96 WAYNE	19	40.15	64	27.04	27.43
97 WILKES	5	16.68	26	17.47	24.94
98 WILSON	8	26.19	34	22.44	17.38
99 YADKIN	9	60.53	29	39.81	41.56
100 YANCEY	1	12.89	16	41.78	22.81

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

CANCER - PROSTATE



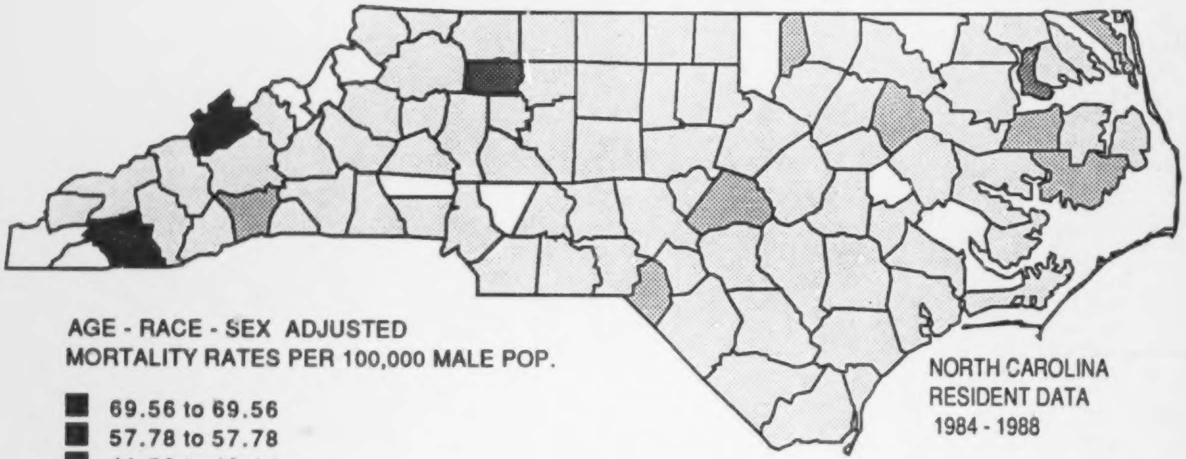
MORTALITY RATES PER 100,000 MALE POP.

- ■ 87.89 to 87.89
- ■ 58.91 to 62.97
- ■ 39.13 to 50.95
- ▨ 30.26 to 37.01
- ☐ 20.81 to 29.01
- ☐ 9.38 to 19.69

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 9.A

CANCER - PROSTATE



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 MALE POP.

- ■ 69.56 to 69.56
- ■ 57.78 to 57.78
- ■ 41.56 to 48.11
- ▨ 32.65 to 37.79
- ☐ 16.05 to 30.93
- ☐ 6.91 to 14.13

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 9.B

CANCER IN SPECIAL POPULATIONS

BLACK AMERICANS AND CANCER

Cancer is the second leading cause of death among adult Americans, including minority adults. Black Americans constitute the largest minority population in the U.S. (12%) and in North Carolina (22%) and experience the highest overall age-adjusted cancer mortality and incidence rates of any U.S. population group (26).

In North Carolina in 1988, cancer was the second leading cause of death for nonwhite males and females with 226.6 deaths and 139.5 deaths per 100,000 population respectively. In the same year, the years of life lost per 100,000 population ranked cancer second for nonwhite females and third for nonwhite males.

For 1978-81, the major contributors to cancer deaths among U.S. blacks, in terms of mortality rates per 100,000 population, were cancer of the lung (males: 91.4, females: 26.3), pancreas (11.0), esophagus (9.2), cervix uteri (females: 8.8) (27). Over the last 30 years, cancer mortality rates in U.S. blacks increased almost 50 percent while the white rates rose only 10 percent, with blacks suffering a significantly greater rise in the incidence rates for cancer of the lung, colon and rectum, prostate, and esophagus (2).

In North Carolina the greatest percent increases in age-adjusted (1970 standard) mortality rates among blacks between the five-year periods 1979-83 and 1984-88 were seen in the following sites: lung (males: 16.4, females 24.4), female breast (21.3), cervix (20.2), pancreas (males: 11.6, females: 5.5), prostate (8.4), colorectal (males: 7.4, females: 10.4) and stomach (males: 6.0, females: 13.2).

In 1988 the five leading contributors to cancer mortality among nonwhite males in N.C. were: lung, prostate, colorectal, pancreas, and esophagus. The picture for nonwhite females is somewhat different. For them, the five leading contributors to cancer deaths were: breast, colorectal, lung, pancreas and cervix.

The difference in the U.S. cancer five-year survival rate for blacks (37%) and whites (50%) has remained stable over the last 20 years (21). Blacks have significantly lower survival rates for cancer of the bladder (47% vs. 73%), corpus uteri (56% vs. 87%), breast (61% vs. 73%), and colon (44% vs. 49%) (28).

Overall cancer mortality is approximately 30 percent higher for U.S. blacks compared to whites (29). Several factors may explain this excess in cancer mortality among blacks:

Social and Dietary Habits - The proportion of smokers among U.S. blacks was 45 percent compared to 37 percent among whites. Blacks eat more nitrate and animal foods and less fiber in relation to protein, fat, and carbohydrate when compared to whites. Blacks also have poorer nutritional status. (30, 31)

Socioeconomic Status - The poorer survival of U.S. blacks with breast cancer is equalized when the socioeconomic status of the patients is taken into account (32). A larger study of incidence rates found that poverty accounted for almost all of the differences between blacks and whites for cancer of the cervix, esophagus, male lung, pancreas, and stomach. Poverty did not explain differences in the incidence of cancer of the prostate. (33)

Treatment Factors - Black women with breast cancer receive less aggressive therapy than white patients. Blacks are more likely to be treated nonsurgically or to receive no cancer treatment compared to white women with breast cancer. The differences in treatment persisted after taking into account the age of the patient and the clinical stage and histology of the tumor. Survival was strongly influenced by the type of treatment, with patients receiving no treatment having half the survival of patients who were treated surgically. (34)

Health Attitudes and Knowledge - Blacks may be less educated about cancer than whites, and may be less likely to utilize screening and prevention strategies. A 1980 American Cancer Society (ACS) study revealed that blacks believe that cancer is the main concern of whites, while hypertension and sickle cell anemia are the primary concerns of blacks (26). A 1986 survey by the ACS showed that, while 92 percent of white women knew of the Pap test for prevention/detection of cervical cancer, only 76 percent of black women knew of the test (2). Preliminary data analysis of a survey of over 1,200 women in rural North Carolina found significantly lower use of mammography by black women even after controlling for socioeconomic factors (35). Finally, one study found that blacks as compared to whites are: inclined to underestimate cancer prevalence and have less knowledge of warning signs; more likely to hold a fatalistic attitude about cancer, being less inclined to view early detection and existing treatments as making an effective difference; less likely to seek medical treatment when symptoms are present; and less aware of the risks associated with various types of cancer (36).

Smoking Cessation and Prevention - Smoking cessation and prevention has been identified by the National Cancer Institute as the key priority in reducing cancer mortality among blacks who have the highest male lung cancer incidence and mortality rates. Esophageal, laryngeal, and bladder cancer are also related to cigarette smoking. (37)

Breast Cancer Screening - Breast cancer is the most common malingnancy among both black and white women and is essentially tied with lung cancer as the leading cause of cancer mortality among women (38, 39). Mammography can reduce breast cancer mortality by as much as a third in women over 50. In the absence of screening, breast cancer is diagnosed at a later stage in black women, with resulting lower survival and higher mortality rates. Understanding and narrowing this differential is a key opportunity for reducing breast cancer mortality in black women.

Dietary Modification - Though further etiologic research is essential, interim dietary recommendations have been made, with reasonable evidence to support them. For example, reducing the intake of dietary fat and increasing the intake of fiber has been recommended by official bodies as possibly beneficial for reducing cancer risk. (40)

Cervical Cancer Screening - The black cervical cancer mortality rate is 2.75 times the white rate despite the broad availability of an inexpensive and effective screening test (40). A recent U.S. health survey indicated that only 70 percent of black women had at least one Pap smear, compared to 85 percent of white women (2).

Etiologic Research - Existing knowledge and technology are severely limited with respect to several of the important cancers responsible for black-white mortality differences, including prostate cancer for which black men have almost a two-fold greater mortality rate than do white men. Although this difference is partly due to lower survival rates, identification of modifiable risk factors for the occurrence and progression of this cancer is crucial to advances in its control (42).

Priority in cancer control among blacks should be given to measures that will affect the cancer sites for which there is an excess black mortality rate, a deficit in the survival rate, or a large absolute number of black cancer deaths.

A recent study of the survival of cancer patients demonstrates that survival rates for Hispanics are approximately the same as for whites (28). Hispanics compared to whites had small deficits in survival for cancer of the bladder (64% vs. 73%) and Hodgkins disease (61% vs. 70%), and a small excess in survival for cancer of the ovary (42% vs. 35%). These figures did not include residents of Puerto Rico, where preliminary data indicate that the population is more similar to blacks than to non-Hispanic whites.

In the same study, the numbers of other ethnic groups were too small for direct comparisons. The trends, however, were for the survival rates of Hawaiians and Chinese to be comparable to those of white patients, while the rates for American Indians and Filipinos tended to be lower than rates for whites.

CANCER AND THE POOR

In 1989 an American Cancer Society study of cancer among this nation's poor found that the poor: (1) Die sooner and suffer more because their disease is diagnosed at later stages when the treatment options are more limited. Poor individuals have a survival rate 10-15 percent below that of other Americans. (2) Face substantial barriers to obtaining health insurance and often do not seek care that they cannot afford. The poor are often forced to accept substandard treatment. An estimated 37 million persons are uninsured, and others have inadequate health insurance. (3) The poor must make extraordinary personal sacrifices to obtain and pay for health care. (4) Cancer education and outreach efforts are insensitive and irrelevant to many poor people. (5) Fatalism about cancer prevails among the poor and prevents them from gaining quality health care. (41)

The American Cancer Society currently estimates that about 90,000 poor Americans annually will die unnecessarily of cancer because of inability to obtain earlier diagnosis and treatment (41).

CANCER IN CHILDREN

Although cancer is a rare disease among children, it is the leading cause of death by disease in children between the ages of 3 and 14 (2). Childhood cancer incidence rates have remained stable over the last decade. Ninety percent of incident cancers are comprised of leukemias and lymphomas, malignant tumors of the central and sympathetic nervous systems, and tumors of the soft tissues, kidney, bone, and liver as well as retinoblastomas of the eye. White children, in a study reported by Young, et. al. (42), had higher rates of leukemias and lymphomas (44% vs. 33%) while blacks had slightly higher rates of nervous system tumors (29% vs. 24%).

In the same study, five-year survival rates for all tumors were 57 percent for both whites and blacks. The five-year survival rate for fibrosarcomas, retinoblastomas, Hodgkins disease and gonadal and germ cell tumors exceeded 80 percent. Comparing 1967-73 survival rates with 1973-81 rates, all cancer sites have increased in survival. Leukemias have the greatest improvement, from 15 percent to 51 percent. (42)

REFERENCES FOR SECTION V

1. Bailar, JC III, Smith, EM. "Progress Against Cancer?," New England Journal of Medicine. 314, 1986, pp. 1226-32.

2. American Cancer Society. Cancer Facts and Figures-1988. New York, 1988.

3. State Center for Health Statistics. "Health of the Elderly in N.C.: Population at Risk and Patterns and Trends in Mortality," SCHS Studies, November 1981.

4. National Center for Health Statistics. "Advance Report of Final Mortality Statistics, 1987," Monthly Vital Statistics Report. Volume 38, Number 5 supp., Hyattsville, Maryland: Public Health Service, September 26, 1989.

5. North Carolina Department of Human Resources, State Center for Health Statistics. Leading Causes of Mortality: North Carolina Vital Statistics, Volume 2, 1981. Raleigh, September 1983.

6. Greenwald P, Lanza E, Eddy GA. "Dietary Fiber in the Reduction of Colon Cancer Risk," Journal of American Dietetic Association. 87, 1987, pp. 1178-88.

7. Kolonel LN, Marchand LL. "The Epidemiology of Colon Cancer and Dietary Fat," Dietary Fat and Cancer. New York, 1986, pp. 69-91.

8. Wargovich MJ. "New Dietary Anticarcinogens and Prevention of Gastrointestinal Cancer," Dis Colon Rectum. 31, 1988, pp. 72-75.

9. Sorenson AW, Slattery ML, Ford MH. "Calcium and Colon Cancer: A Review," Nutr Cancer. 11, 1988, pp. 135-45.

10. Slattery ML, Schumacher C, Smith KR, West DW, Abd-elghany N. "Physical Activity, Diet, and Risk of Colon Cancer in Utah," Am J Epidemiol. 1988, pp. 9898-99.

11. Fearon ER, Hamilton SR, Vogelstein B. "Clonal Analysis of Human Colorectal Tumors," Science. 238, 1987, pp. 193-7.

12. Centers for Disease Control. "Chronic Disease Reports: Deaths from Colorectal Cancer - United States, 1986," Morbidity and Mortality Weekly Report. Volume 38, Number 42, U.S. Government Printing Office, Washington, 1989, p. 726.

13. U.S. Department of Health and Human Services. Reducing the Health Consequences of Smoking: 25 Years of Progress. A Report of the Surgeon General. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. DHHS Publication No. (CDC) 89-8411, 1989.

14. National Cancer Institute. 1987 Annual Cancer Statistics Review, Including Cancer Trends 1950 -1985. Bethesda, MD, 1988.

15. Centers for Disease Control. "Chronic Disease Reports: Deaths from Lung Cancer - United States, 1986," Morbidity and Mortality Weekly Report. Volume 38, Number 29, U.S. Government Printing Office, Washington 1989, p. 502.

16. Fink DJ, McKenna RJ. "Introduction - Workshop on the Community and Cancer Prevention and Detection," Cancer. 61, 1988, p. 2363.

17. Saracci R. "The Interactions of Tobacco Smoking and Other Agents in Cancer Etiology," Epidemiologic Reviews. 9, 1987, p. 175.

18. Doll R, Peto R. "The Causes of Cancer: Quantitative Estimates of Avoidable Risks of Cancer in the United States Today." Journal of National Cancer Institute. 66, 1981, p. 1191.

19. Colditz GA, Stampfer MJ, Willett WC. "Diet and Lung Cancer. A Review of the Epidemiologic Evidence in Humans," Arch Int Med. 147, 1987, p. 157.

20. Silverberg, E. and Luberg, JA. "Cancer Statistics, 1989," Ca- A Cancer Journal for Clinicians. 39, 1989, pp. 3-20.

21. Kelsey, JL and Berkowitz, GS. "Breast Cancer Epidemiology," Cancer Research. 45, 1988, pp. 5615-5623.

22. Centers for Disease Control. "Chronic Disease Reports: Deaths from Breast Cancer Among Women - United States, 1986," Morbidity and Mortality Weekly Report. Volume 38, Number 33, U.S. Government Printing Office, Washington 1989, p. 566.

23. Riggan WB, Creason JP, Nelson WC, et al. U.S. Cancer Mortality Rates and Trends, 1950-1979. United States Environmental Protection Agency, Research Triangle Park, NC, 1987.

24. Greenwald P. "Prostate," in Cancer Epidemiology and Prevention. Schottenfeld D, Fraumeni JF, eds. Philadelphia, 1982, pp. 939-946.

25. Lee F, Torp-Pedersen ST, Siders DB. "Screening Techniques, Including Transrectal Ultrasound," CA--A Cancer Journal for Clinicians. 39(6), 1989, pages are pending publication.

26. Bang, K.M., White, J.E., Gause, B.L. and Leffall Jr., L.D. "Evaluation of Recent Trends in Cancer Mortality and Incidence Among Blacks," Cancer. 61, 1988, pp. 1255-61.

27. U.S. Department of Health and Human Services. Cancer Among Blacks and Other Minorities: Statistical Profiles. Washington, D.C. 1986.

28. Young, J.L., Ries, L.G. and Posseck, E.S. "Cancer Patient Survival Among Ethnic Groups in the United States," J Natl Cancer Inst. 73, 1984, pp. 341-52.

29. Control, C.F.D. "Premature Mortality Due to Malignant Neoplasms - United States," Morbidity and Mortality Weekly Report. 35, 1986, pp. 459-61.

30. Hargreaves, M.K., Bequet, C. and Gamshadehi, A. "Diet, Nutritional Status, and Cancer Risk in American Blacks," Nutr. Cancer. 12, 1989, pp. 1-28.

31. Hill, M.J. "Dietary Fat and Human Cancer (Review)," Anticancer Res. 7 (3), 1987, pp. 281-92.

32. Bassett, M.T. and Krieger, N. "Social Class and Black-White Differences in Breast Cancer Survival," Am J Public Health. 75, 1986, pp. 1400-03.

33. McWhorter, W.P., Schatzkin, A.G., Horm, J.W. and Brown, C.C. "Contribution of Socioeconomic Status to Black/White Differences in Cancer Incidence," Cancer. 63, 1989, pp. 982-7.

34. McWhorter, W.P. and Mayer, W.J. "Black/White Differences in Type of Initial Breast Cancer Treatment and Implications for Survival," Am J Public Health. 77, 1987, pp. 1515-17.

35. Harris, R. and Fletcher, S. 1988 Breast Cancer Screening in Rural North Carolina. Abstract accepted for presentation at the Annual Meeting of the American Public Health Association, Boston, MA, November 13-17, 1988.

36. US Department of Health and Human Services. Report of the Secretary's Task Force on Black and White Minority Health. Washington, D.C., 1986.

37. Baquet, C. and Ringen, K. "Cancer Control in Blacks: Epidemiology and NCI Program Plans," Prog Clin Biol Res. 216, 1986, pp. 215-227.

38. Moskowitz, M. "Mammography to Screen Asymptomatic Women for Breast Cancer," Amer J Radiol. 143, 1984, pp. 457-9.

39. Stanford, F.L. "Breast Cancer Incidence in Young Women by Estrogen Receptor Status and Race," Am J Public Health. 79, 1989, pp. 71-73.

40. National Cancer Institute. Cancer Control: Objectives for the Nation 1985-2000. Bethesda, MD., 1985.

41. American Cancer Society. Cancer and the Poor: A Report to the Nation. Atlanta, 1989.

42. Young, J.L., Ries, L.G., Silverberg, E., Horm, J.W. and Miller, R.W. "Cancer Incidence, Survival, and Mortality for Children Younger than Age 15 Years," Cancer. 58, 1986, pp. 598-602.

VI. OTHER SELECTED CAUSES OF MORTALITY

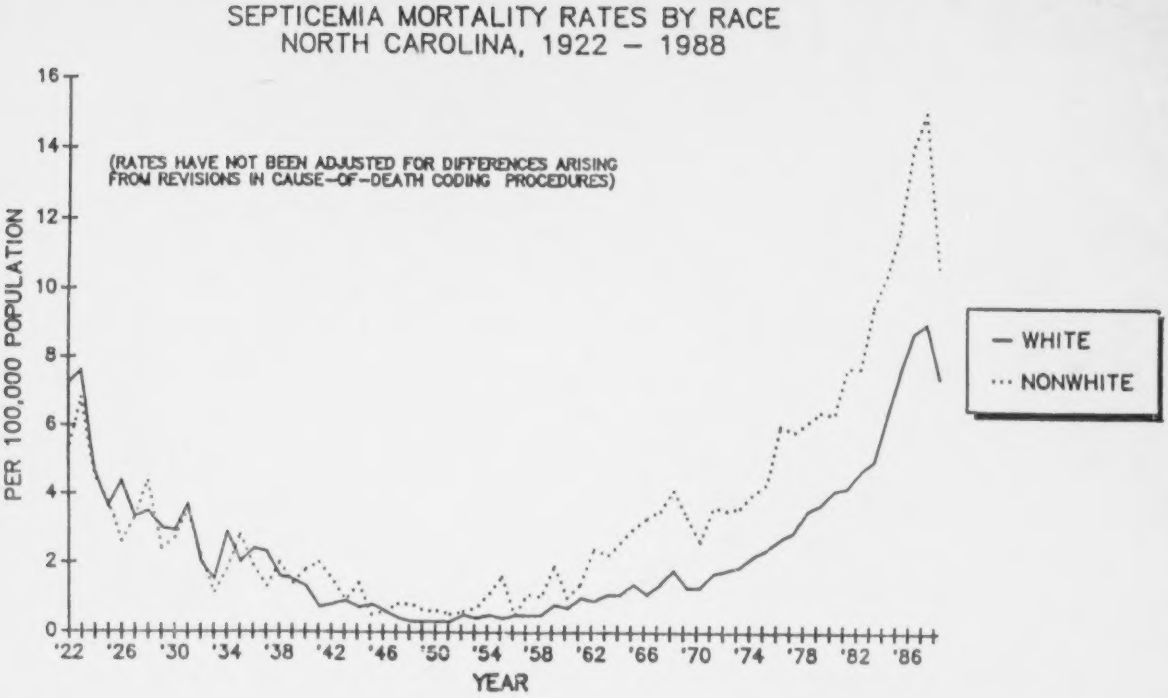
SEPTICEMIA

This is the first time that septicemia has been featured in this publication, although it has been one of the leading causes of mortality for the past decade. Because of the aging of North Carolina's population, septicemia will continue to be a leading cause of death in years to come.

Septicemia, sometimes called "blood poisoning," is a disease in which the blood is the site of bacterial growth as well as the means of transportation of the infectious agent from one site to another. Because the blood is the growth medium, the spread of septicemia is very rapid, making it an extremely dangerous disease. To compound its seriousness, septicemia may be caused by any one of several types of bacteria, for example, clostridia, bacteroides, and salmonella (1,2).

Five-hundred-thirty-one North Carolinians died from septicemia in 1988. As seen in the following graph, septicemia mortality rates for both whites and nonwhites have risen sharply in recent years, with the exception of 1988. In 1988 the overall rates dropped precipitously, from 10.5 deaths per 100,000 population to 8.2, a decrease of 22 percent.

From 1979-83 to 1984-88 the mortality rate for septicemia rose from 5.2 go 8.9 (a 71 percent increase) while the age-adjusted rate increased by 50 percent. The age-adjusted rates for each race-sex group reveal substantial increases over these five year periods: white males, 40 percent; white females, 73 percent, nonwhite males, 42 percent; and nonwhite females, 50 percent.



The 1988 unadjusted rate for females was 52 percent higher than for males, and the rate for nonwhites exceeded that for whites by 41 percent. After adjustment for age, nonwhite males had the highest rate, more than twice that of white males and females, and 50 percent greater than nonwhite females.

North Carolina compares unfavorably with the United States in septicemia mortality rates. The age-adjusted rate for N.C. in 1987 was 36 percent higher than the U.S. rate (3).

RISK FACTORS

Primarily at risk for septicemia are the very young and the very old. Nearly 80 percent of septicemia deaths in 1988 were to persons ages 65 and older. Septicemia death rates for children under age five were twice as high as those for persons ages 5-64. The rate for persons ages 85 and older was 113 times as high as those for persons between the ages of five and 65.

GEOGRAPHIC PATTERNS

County-by-county variations in underlying septicemia rates are not analyzed here, since the total number of deaths is relatively small, and septicemia is much more likely to be reported as a mentioned rather than an underlying condition. In the section of this volume entitled "Multiple Conditions Present at Death," there are county maps showing 1984-88 septicemia mentions per 100,000 population, with an associated discussion of geographic patterns. Data from that section depict three clusters of counties in which residents appear to be at relatively high risk for septicemia, even after adjustment for age, race, and sex variations in county populations.

TABLE - 11

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

SEPTICEMIA

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	531	8.18	2825	8.92	8.92
REGIONS					
DHR I WESTERN	170	7.64	834	7.69	7.92
DHR II N. CENTRAL	119	8.72	691	10.35	9.93
DHR III S. CENTRAL	120	7.82	687	9.25	10.09
DHR IV EASTERN	122	8.91	613	9.13	9.03
HSA I WESTERN	96	8.76	433	8.03	7.20
HSA II PIEDMONT	103	8.57	571	9.70	9.68
HSA III S. PIEDMONT	74	6.56	401	7.36	8.01
HSA IV CAPITAL	80	8.25	506	10.92	11.15
HSA V CARDINAL	71	7.29	419	8.76	9.33
HSA VI EASTERN	107	9.55	495	8.98	8.94
COUNTIES					
1 ALAMANCE	7	6.60	54	10.43	9.45
2 ALEXANDER	1	3.62	12	8.91	10.52
3 ALLEGHANY	0	0.00	5	10.23	15.70 *
4 ANSON	3	11.43	12	9.15	6.18
5 ASHE	1	4.25	10	8.56	5.26
6 AVERY	0	0.00	5	6.63	5.10
7 BEAUFORT	4	9.42	19	8.97	7.26
8 BERTIE	2	9.50	11	10.37	9.22
9 BLADEN	5	16.16	27	17.52	13.74
10 BRUNSWICK	1	1.96	12	5.05	4.96
11 BUNCOMBE	16	9.23	76	8.95	7.60
12 BURKE	4	5.17	22	5.78	6.39
13 CABARRUS	10	10.42	46	9.84	10.11
14 CALDWELL	8	11.19	19	5.40	5.85
15 CAMDEN	0	0.00	2	6.77	7.20
16 CARTERET	6	11.75	15	6.08	5.80
17 CASWELL	1	4.50	4	3.59	4.63
18 CATAWBA	9	7.66	39	6.83	7.25
19 CHATHAM	3	8.16	23	12.81	10.76
20 CHEROKEE	3	14.16	12	11.68	12.45
21 CHOWAN	0	0.00	5	7.49	5.59
22 CLAY	0	0.00	1	2.79	1.54
23 CLEVELAND	8	9.18	37	8.59	8.20
24 COLUMBUS	6	11.41	42	16.05	15.27
25 CRAVEN	2	2.45	38	9.51	12.35
26 CUMBERLAND	15	5.89	70	5.49	9.72
27 CURRITUCK	2	14.29	5	7.46	7.07
28 DARE	1	4.65	10	10.67	11.60
29 DAVIDSON	6	4.82	42	6.92	7.86
30 DAVIE	2	7.18	15	11.12	12.86
31 DUPLIN	8	19.20	23	11.05	9.45
32 DURHAM	19	11.07	109	13.17	11.42
33 EDGECOMBE	6	10.01	28	9.50	7.87
34 FORSYTH	36	13.51	169	12.95	12.16
35 FRANKLIN	4	11.28	24	14.19	10.26
36 GASTON	14	8.03	60	6.98	7.33
37 GATES	2	20.42	9	18.89	11.57
38 GRAHAM	2	28.50	5	14.01	21.73*
39 GRANVILLE	3	7.69	32	17.05	13.16
40 GREENE	0	0.00	6	7.27	5.34
41 GUILFORD	23	6.82	124	7.50	7.42

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNCERTAIN.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
SEPTICEMIA CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	10	17.59	42	14.92	11.12
43 HARNETT	3	4.52	22	6.86	7.34
44 HAYWOOD	6	12.43	17	7.07	4.15
45 HENDERSON	2	2.88	20	5.97	6.87
46 HERTFORD	3	12.67	15	12.57	7.25
47 HOKE	2	8.34	10	8.64	7.57
48 HYDE	0	0.00	1	3.41	2.71
49 IREDELL	4	4.36	31	6.98	7.11
50 JACKSON	3	11.09	12	8.92	7.21
51 JOHNSTON	4	4.95	32	8.20	8.01
52 JONES	0	0.00	9	18.25	16.28
53 LEE	2	4.76	18	8.80	9.06
54 LENOIR	6	9.95	27	8.93	8.66
55 LINCOLN	1	2.05	10	4.30	4.96
56 MCDOWELL	3	8.25	14	7.71	6.82
57 MACON	7	29.90	10	8.65	4.96
58 MADISON	3	17.40	15	17.39	10.52
59 MARTIN	5	18.92	17	12.82	10.01
60 MECKLENBURG	29	6.09	181	7.97	8.65
61 MITCHELL	1	6.80	10	13.75	7.81
62 MONTGOMERY	6	24.82	16	13.36	11.63
63 MOORE	3	5.05	21	7.44	5.81
64 NASH	6	8.24	43	12.03	12.57
65 NEW HANOVER	8	6.81	58	10.16	10.45
66 NORTHAMPTON	3	13.56	18	16.06	11.41
67 ONSLOW	6	4.78	19	3.07	7.21
68 ORANGE	5	5.65	47	11.12	14.49
69 PAMLICO	2	18.21	6	10.99	8.61
70 PASQUOTANK	0	0.00	5	3.33	2.80
71 PENDER	0	0.00	6	4.72	5.03
72 PERQUIMANS	0	0.00	6	11.42	7.83
73 PERSON	3	9.54	11	7.17	5.73
74 PITT	10	9.80	50	10.18	10.25
75 POLK	0	0.00	6	8.25	5.05
76 RANDOLPH	8	7.78	31	6.24	7.39
77 RICHMOND	5	10.90	31	13.57	12.46
78 ROBESON	6	5.55	41	7.69	7.08
79 ROCKINGHAM	15	17.34	56	13.07	12.14
80 ROWAN	8	7.51	38	7.29	6.12
81 RUTHERFORD	7	12.10	19	6.64	5.48
82 SAMPSON	6	11.78	32	12.66	10.86
83 SCOTLAND	2	5.76	19	11.17	12.28
84 STANLY	3	5.87	15	5.95	5.84
85 STOKES	1	2.74	18	10.07	12.44
86 SURRY	2	3.22	38	12.39	10.87
87 SWAIN	2	19.01	5	9.39	5.71
88 TRANSYLVANIA	0	0.00	8	6.23	4.00
89 TYRRELL	0	0.00	2	9.72	14.19
90 UNION	5	5.95	20	4.99	5.82
91 VANCE	1	2.54	31	16.02	13.79
92 WAKE	31	7.97	157	8.62	11.26
93 WARREN	5	30.07	22	26.68	16.49
94 WASHINGTON	4	27.32	9	12.36	12.24
95 WATAUGA	2	5.76	14	8.15	7.29
96 WAYNE	12	12.16	34	6.92	7.59
97 WILKES	8	13.02	34	11.16	9.49
98 WILSON	7	10.67	21	6.47	6.92
99 YADKIN	2	6.59	20	13.46	12.33
100 YANCEY	0	0.00	6	7.60	4.77

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

DIABETES MELLITUS

Diabetes Mellitus is one of the chronic noncommunicable diseases that have increased markedly in this century (4). It is a major public health problem and a leading cause of death, disability, and cost in the United States. Since the discovery of insulin and other drugs for lowering hyperglycemia, a reduction in acute complications of diabetes has improved the quality of life of many diabetic patients. An estimated 6.0 million people in the United States have been diagnosed as having diabetes; perhaps another 4.0 million people harbor this syndrome but remain undiagnosed (5). Deaths with diabetes as the underlying cause account for 1.8 percent of the United States mortality and for one percent of potential years of life lost before age 65 (6).

In 1988, a total of 1,326 North Carolinians were reported to have died from diabetes, making it the seventh leading cause of death in the state. These deaths represent a rate of 20.4 deaths per 100,000 population, a 27.8 percent increase over the 1987 rate for diabetes as an underlying cause. In 1987, North Carolina's rate of 16.0 was one percent higher than the United States rate, but after adjustment for age, the state's rate was seven percent higher. In 1986, 19 states had a higher age-adjusted mortality rate (6).

But these figures are unrepresentative of the true proportion of deaths that occur with diabetes. Like hypertension and atherosclerosis, diabetes is an associated condition far more often than it is the underlying cause of death. In 1988 a total of 4,894 death certificates, representing 8.2 percent of deaths to North Carolina residents had a mention of diabetes. (For further information on mentioned conditions, see Section IX).

As an underlying cause of death in 1984-88, nonwhites had higher age-adjusted rates than whites. The rate for nonwhite males was 2.2 times that for white males, while the nonwhite female rate was 3 times the white female rate. Male and female rates were similar within each race group. From 1979-83 to 1984-88 the age-adjusted death rate with diabetes as the underlying cause increased by four percent in North Carolina. Increases were 12.8 for nonwhite males, 5.8 for nonwhite females, 4.3 for white females, and no change for white males. Based on U.S. data from 1986, only 19 states had a higher age-adjusted mortality rate (6).

Regardless of race or sex, deaths from diabetes mellitus are far more common among the elderly. Looking at 1984-88 deaths in North Carolina age 65 and older, there were 3483 deaths attributed to diabetes for a rate of 95.2. By comparison, the 1984-88 rate for persons of all ages was 15.9. Over two-thirds of deaths from diabetes are to persons age 65 and over.

RISK FACTORS

Factors that are reported to increase the risk of diabetes have varied from one study to another. It is generally found, however, that smoking, hypertension, and being overweight are modifiable risk factors for death among diabetic persons, and estimates of deaths that could be averted by eliminating these risk factors are substantial. Diabetes also contributes to end-stage renal disease, amputations, blindness, and other serious complications; associated risk factors include higher levels of glycemia, smoking, and hypertension. Assuming that risk-factor reductions among diabetic persons would have the same benefit as in the general population, more effective control of smoking, hypertension, and obesity should further decrease morbidity and mortality rates among diabetic persons. (6)

GEOGRAPHIC PATTERNS

As with septicemia, no attempt is made to assess county-by-county geographic variations in the underlying-cause diabetes death rate since diabetes mellitus is much more likely to be reported as a mentioned rather than an underlying condition. In Section IX of this volume there are county maps depicting the 1984-88 diabetes mentions, as well as significant clusters of high-rate counties. These maps suggest that residents of the central eastern and, to a lesser degree western counties may be at relatively high risk for diabetes, even after the effects of age, race, and sex have been controlled.

TABLE - 12

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

DIABETES MELLITUS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1326	20.43	5040	15.92	15.92
REGIONS					
DHR I WESTERN	464	20.86	1703	15.71	16.48
DHR II N. CENTRAL	296	21.71	1153	17.28	16.60
DHR III S. CENTRAL	269	17.54	1066	14.35	15.44
DHR IV EASTERN	297	21.71	1118	16.66	15.57
HSA I WESTERN	237	21.63	859	15.93	17.20
HSA II PIEDMONT	259	21.55	994	16.89	16.96
HSA III S. PIEDMONT	227	20.12	844	15.50	16.45
HSA IV CAPITAL	172	17.74	639	13.79	14.11
HSA V CARDINAL	189	19.42	762	15.94	16.12
HSA VI EASTERN	242	21.61	942	17.09	15.97
COUNTIES					
1 ALAMANCE	41	38.71	118	22.79	19.63
2 ALEXANDER	2	7.25	10	7.43	14.39
3 ALLEGHANY	2	20.36	4	8.18	4.92
4 ANSON	6	22.86	20	15.25	9.64
5 ASHE	5	21.28	19	16.27	26.21*
6 AVERY	3	19.66	9	11.93	9.76
7 BEAUFORT	19	44.77	50	23.62	18.88
8 BERTIE	10	47.53	30	28.30	18.99
9 BLADEN	9	29.09	40	25.95	20.63
10 BRUNSWICK	7	13.73	29	12.21	12.60
11 BUNCOMBE	39	22.51	138	16.25	15.24
12 BURKE	20	25.86	66	17.35	20.17
13 CABARRUS	14	14.59	47	10.05	9.65
14 CALDWELL	19	26.59	62	17.63	22.23
15 CAMDEN	0	0.00	9	30.47	30.32
16 CARTERET	11	21.55	51	20.70	24.04
17 CASWELL	9	40.55	23	20.68	19.21
18 CATAWBA	28	23.86	90	15.77	18.49
19 CHATHAM	8	21.77	19	10.58	9.53
20 CHEROKEE	2	9.44	11	10.71	5.66
21 CHOWAN	4	29.20	14	20.98	12.35
22 CLAY	1	13.74	5	13.98	7.42
23 CLEVELAND	18	20.66	89	20.68	20.19
24 COLUMBUS	16	30.44	43	16.43	14.10
25 CRAVEN	9	11.03	36	9.01	10.89
26 CUMBERLAND	32	12.56	131	10.27	17.45
27 CURRITUCK	5	35.74	17	25.38	24.59
28 DARE	3	13.97	11	11.74	8.93
29 DAVIDSON	19	15.28	86	14.17	17.64
30 DAVIE	4	14.36	18	13.35	13.99
31 DUPLIN	11	26.40	41	19.70	15.78
32 DURHAM	41	23.90	125	15.11	13.52
33 EDGECOMBE	16	26.71	46	15.61	12.06
34 FORSYTH	70	26.28	267	20.46	19.53
35 FRANKLIN	12	33.85	30	17.73	12.83
36 GASTON	37	21.24	119	13.84	15.95
37 GATES	2	20.42	12	25.18	16.69
38 GRAHAM	0	0.00	1	2.80	16.06
39 GRANVILLE	10	25.65	41	21.84	16.12
40 GREENE	4	24.41	16	19.41	16.71
41 GUILFORD	57	16.92	254	15.38	15.27

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
DIABETES MELLITUS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	8	14.07	59	20.96	15.70
43 HARNETT	6	9.05	42	13.10	14.04
44 HAYWOOD	13	26.93	36	14.97	9.45
45 HENDERSON	10	14.43	43	12.84	9.89
46 HERTFORD	6	25.34	26	21.80	17.76
47 HOKE	4	16.68	17	14.70	11.33
48 HYDE	0	0.00	4	13.67	12.64
49 IREDELL	13	14.19	66	14.87	13.97
50 JACKSON	5	22.18	23	17.10	24.87
51 JOHNSTON	21	26.03	58	14.86	15.05
52 JONES	2	20.31	9	18.25	12.54
53 LEE	10	23.84	25	12.23	12.31
54 LENOIR	11	18.24	52	17.21	13.69
55 LINCOLN	10	20.58	40	17.23	24.71
56 MCDOWELL	6	16.50	29	15.98	19.64
57 MACON	6	25.63	17	14.71	8.06
58 MADISON	4	23.21	21	24.35	53.80 *
59 MARTIN	12	45.42	35	26.40	19.41
60 MECKLENBURG	104	21.34	365	16.08	17.86
61 MITCHELL	4	27.21	21	28.88	17.95
62 MONTGOMERY	4	16.54	15	12.52	10.99
63 MOORE	8	13.48	40	14.18	11.91
64 NASH	13	17.87	61	17.07	15.83
65 NEW HANOVER	28	23.84	91	15.94	16.20
66 NORTHAMPTON	5	22.61	25	22.31	12.62
67 ONSLOW	10	7.96	37	5.98	13.92
68 ORANGE	10	11.30	45	10.64	13.97
69 PAMLICO	0	0.00	6	10.99	6.83
70 PASQUOTANK	9	29.33	30	20.00	16.86
71 PENDER	4	14.76	13	10.24	8.61
72 PERQUIMANS	2	18.12	3	5.71	3.30
73 PERSON	7	22.27	29	18.91	15.64
74 PITT	26	25.48	87	17.72	18.08
75 POLK	5	33.96	17	23.37	17.96
76 RANDOLPH	23	22.35	63	12.69	15.46
77 RICHMOND	16	34.88	57	24.95	21.75
78 ROBESON	32	29.62	144	27.01	28.46
79 ROCKINGHAM	16	18.50	67	15.64	14.80
80 ROWAN	17	15.95	96	18.43	16.95
81 RUTHERFORD	17	29.40	49	17.14	17.39
82 SAMPSON	12	23.57	43	17.02	13.97
83 SCOTLAND	5	14.40	37	21.75	18.54
84 STANLY	15	29.38	58	23.03	25.49
85 STOKES	4	10.96	18	10.07	10.58
86 SURRY	15	24.15	64	20.87	21.94
87 SWAIN	6	57.04	19	35.70	33.87
88 TRANSYLVANIA	5	19.09	17	13.24	22.84
89 TYRRELL	2	48.84	3	14.59	10.37
90 UNION	17	20.23	53	13.23	15.97
91 VANCE	7	17.82	45	23.26	17.97
92 WAKE	45	11.58	208	11.42	14.85
93 WARREN	1	6.01	14	16.98	8.26
94 WASHINGTON	1	6.83	10	13.74	11.24
95 WATAUGA	4	11.53	13	7.57	16.78
96 WAYNE	23	23.32	96	19.54	19.45
97 WILKES	9	14.65	35	11.49	14.84
98 WILSON	18	27.44	66	20.34	19.79
99 YADKIN	1	3.29	16	10.77	7.75
100 YANCEY	3	18.73	15	19.01	13.26

* SEE SECTION II: RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

PNEUMONIA AND INFLUENZA

In 1988 a total of 1,930 North Carolinians died from pneumonia (viral and bacterial) or influenza. The crude mortality rate of 29.8 deaths per 100,000 population in 1988 was up 18 percent from 25.2 in 1987. A comparison of the five-year period 1979-83 to 1984-88 reveals that the pneumonia and influenza rate rose 26 percent, from 21.4 to 27.0.

After adjusting for age, the upward trend in pneumonia and influenza mortality rates is dampened significantly. Less than an eight percent increase is noted when comparing 1979-83 to 1984-88 age-adjusted rates, suggesting that much of the increase in unadjusted rates was due to changes in the age structure of the population. North Carolina's elderly population has grown more rapidly than the rest of its population, and is expected to double in the thirty years from 1980 to 2010 (7).

The rate of pneumonia and influenza mortality increases with age, regardless of race or sex. In the period 1984-88 nearly 85 percent of such deaths were to persons 65 and older.

While the nonwhite male age-adjusted rate for 1984-88 was the highest of the race-sex-specific rates, it represented the smallest increase from 1979-83 to 1984-88 (4.8 percent). Nonwhite females increased the most, rising 16.7 percent. White male and female age-adjusted rates increased eight and nine percent, respectively.

The 1987 age-adjusted mortality rate for pneumonia and influenza was 1.5 percent below the United States rate (3).

North Carolina's age-adjusted race-sex-specific rates for nonwhite males and females were somewhat higher than national averages, while state white rates were slightly lower.

Pneumonia and influenza was the sixth leading cause of death in 1988 when ranked on the basis of unadjusted mortality rates. Race-sex-specific rankings reveal that pneumonia and influenza was the sixth leading cause of death for white males (30.7 deaths per 100,000), fourth for white females (32.9), sixth for nonwhite males (29.5), and sixth for nonwhite females (17.8). Pneumonia and influenza was North Carolina's tenth leading cause of potential years of life lost, accounting for 139 years lost per 100,000 population.

RISK FACTORS

Persons most at risk of dying from pneumonia or influenza are those over age 50, those with chronic diseases of the heart, liver, lungs, kidneys, or those with diabetes (8). Respiratory infections in the form of pneumonia or pneumonitis are also common in the neonatal period and a significant cause of morbidity and mortality in the newborn (9).

GEOGRAPHIC PATTERNS

Figures 10.A and 10.B depict the county unadjusted and age-race-sex-adjusted 1984-88 rates for pneumonia and influenza. As shown in Figure 10.A, most of the 100 North Carolina counties have relatively low unadjusted mortality rates. Madison, Mitchell, and Alleghany in the Western DHR region have high rates, however, as have Stokes and Warren in the North Central, Anson in the South Central, and Chowan in the Eastern Region. Overall pneumonia and influenza unadjusted mortality rates were the highest in the North Central DHR Region (35.3) and the Western Region (31.8).

After adjusting for age, race, and sex differences (see Figure 10.B), Stokes, Alleghany, Warren, Anson, Chowan, and Camden exhibited rates in the two highest levels. In short, high rate occurs in mostly rural counties and cannot be attributed to the age-race-sex distributions in these counties. Also, the high rates noted in Anson, Stokes, and Warren counties have persisted since 1979-81 (10).

When using the procedures outlined in Section II, geographic clusters of the counties' high unadjusted pneumonia and influenza mortality rates are not statistically significant. Similarly, adjusting for age, race, and sex does not reveal any meaningful clustering among the counties. This result is consistent with earlier findings (10).

TABLE- 13

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

PNEUMONIA AND INFLUENZA

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1930	29.74	8538	26.98	26.98
REGIONS					
DHR I WESTERN	708	31.84	3155	29.11	26.63
DHR II N. CENTRAL	481	35.28	1971	29.54	27.78
DHR III S. CENTRAL	379	24.72	1635	22.01	26.27
DHR IV EASTERN	362	26.46	1777	26.48	27.78
HSA I WESTERN	365	33.31	1753	32.51	27.16
HSA II PIEDMONT	411	34.20	1679	28.53	27.28
HSA III S. PIEDMONT	343	30.41	1402	25.75	26.23
HSA IV CAPITAL	253	26.09	1137	24.55	26.97
HSA V CARDINAL	260	26.72	1102	23.06	26.85
HSA VI EASTERN	298	26.61	1465	26.58	27.94
COUNTIES					
1 ALAMANCE	21	19.82	99	19.12	16.52
2 ALEXANDER	9	32.65	39	28.97	35.50
3 ALLEGHANY	6	61.10	40	81.87	44.17
4 ANSON	18	68.60	76	57.95	46.07
5 ASHE	7	29.80	30	25.70	14.66
6 AVERY	7	45.88	27	35.81	30.24
7 BEAUFORT	17	40.06	81	38.27	32.54
8 BERTIE	6	28.51	37	34.90	26.74
9 BLADEN	12	38.79	52	33.74	34.44
10 BRUNSWICK	12	23.54	71	29.89	30.79
11 BUNCOMBE	69	39.83	342	40.27	28.94
12 BURKE	24	31.04	86	22.61	26.17
13 CABARRUS	54	56.28	177	37.87	33.96
14 CALDWELL	22	30.79	85	24.17	28.80
15 CAMDEN	2	33.01	13	44.01	43.03
16 CARTERET	10	19.59	53	21.51	21.44
17 CASWELL	6	27.03	28	25.17	26.55
18 CATAWBA	33	28.12	147	25.76	28.77
19 CHATHAM	13	35.38	54	30.09	26.23
20 CHEROKEE	8	37.76	31	30.19	16.66
21 CHOWAN	7	51.11	40	59.94	42.28
22 CLAY	3	41.24	15	41.95	21.41
23 CLEVELAND	23	26.40	102	23.70	22.40
24 COLUMBUS	24	45.66	97	37.08	35.62
25 CRAVEN	12	14.70	64	16.02	23.44
26 CUMBERLAND	42	16.49	155	12.16	25.47
27 CURRITUCK	2	14.29	18	26.87	27.47
28 DARE	6	27.95	25	26.69	26.93
29 DAVIDSON	30	24.13	149	24.56	25.93
30 DAVIE	6	21.54	34	25.22	26.71
31 DUPLIN	7	16.80	49	23.55	20.97
32 DURHAM	44	25.65	241	29.13	28.31
33 EDGECOMBE	19	31.72	106	35.98	31.20
34 FORSYTH	101	37.91	363	27.82	26.36
35 FRANKLIN	10	28.21	38	22.46	18.63
36 GASTON	52	29.85	220	25.59	27.46
37 GATES	7	71.50	19	39.87	35.54
38 GRAHAM	3	42.75	8	22.43	38.92*
39 GRANVILLE	15	38.48	74	39.42	36.54
40 GREENE	5	30.51	16	19.41	20.28
41 GUILFORD	132	39.18	501	30.33	28.77

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
PNEUMONIA AND INFLUENZA CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	22	38.70	84	29.84	26.10
43 HARNETT	14	21.12	81	25.27	27.34
44 HAYWOOD	20	41.43	96	39.94	27.17
45 HENDERSON	27	38.98	140	41.82	25.53
46 HERTFORD	3	12.67	37	31.02	20.51
47 HOKE	5	20.85	25	21.61	36.76
48 HYDE	2	35.22	7	23.93	16.44
49 IREDELL	33	36.02	146	32.89	29.07
50 JACKSON	14	51.75	50	37.18	34.20
51 JOHNSTON	25	30.99	102	26.14	26.43
52 JONES	2	20.31	12	24.33	23.37
53 LEE	10	23.84	42	20.55	21.28
54 LENOIR	19	31.51	70	23.16	23.47
55 LINCOLN	9	18.52	51	21.97	21.47
56 MCDOWELL	10	27.51	47	25.90	23.75
57 MACON	4	17.09	36	31.15	29.02
58 MADISON	10	58.03	43	49.86	35.54
59 MARTIN	10	37.85	42	31.68	27.78
60 MECKLENBURG	110	23.10	453	19.96	22.79
61 MITCHELL	4	27.21	44	60.52	33.15
62 MONTGOMERY	10	41.37	42	35.07	29.33
63 MOORE	27	45.51	86	30.49	22.65
64 NASH	15	20.62	113	31.63	31.41
65 NEW HANOVER	18	15.32	112	19.62	21.46
66 NORTHAMPTON	11	49.75	44	39.27	37.18
67 ONSLOW	17	13.54	70	11.31	29.30
68 ORANGE	15	16.95	75	17.74	23.31
69 PAMLICO	3	27.32	22	40.30	27.42
70 PASQUOTANK	8	26.07	46	30.67	27.03
71 PENDER	10	36.92	32	25.21	22.13
72 PERQUIMANS	8	72.50	22	41.89	27.36
73 PERSON	18	57.28	50	32.60	28.91
74 PITT	21	20.58	123	25.05	29.93
75 POLK	4	27.17	26	35.75	21.38
76 RANDOLPH	22	21.41	93	18.74	22.18
77 RICHMOND	10	21.80	61	26.71	24.89
78 ROBESON	37	34.25	113	21.20	24.87
79 ROCKINGHAM	32	37.00	159	37.12	35.00
80 ROWAN	50	46.94	199	38.22	28.88
81 RUTHERFORD	21	36.32	118	41.29	31.97
82 SAMPSON	14	27.50	66	26.12	23.87
83 SCOTLAND	7	20.17	33	19.40	22.01
84 STANLY	17	33.30	64	25.42	20.73
85 STOKES	21	57.55	87	48.68	51.08
86 SURRY	27	43.47	99	32.28	23.51
87 SWAIN	4	38.03	15	28.18	18.34
88 TRANSYLVANIA	4	15.27	38	29.61	22.32
89 TYRRELL	3	73.26	6	38.91	32.21
90 UNION	18	21.42	92	22.98	27.51
91 VANCE	19	48.38	79	40.84	34.19
92 WAKE	76	19.56	331	18.17	25.48
93 WARREN	8	48.12	51	61.86	46.75
94 WASHINGTON	5	34.15	23	31.60	34.91
95 WATAUGA	11	31.72	36	20.97	21.78*
96 WAYNE	25	25.34	110	22.39	26.27
97 WILKES	17	27.67	89	29.21	27.85
98 WILSON	24	36.59	111	34.22	37.00
99 YADKIN	13	42.87	67	45.11	34.58
100 YANCEY	1	6.24	23	29.16	17.23

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

PNEUMONIA AND INFLUENZA

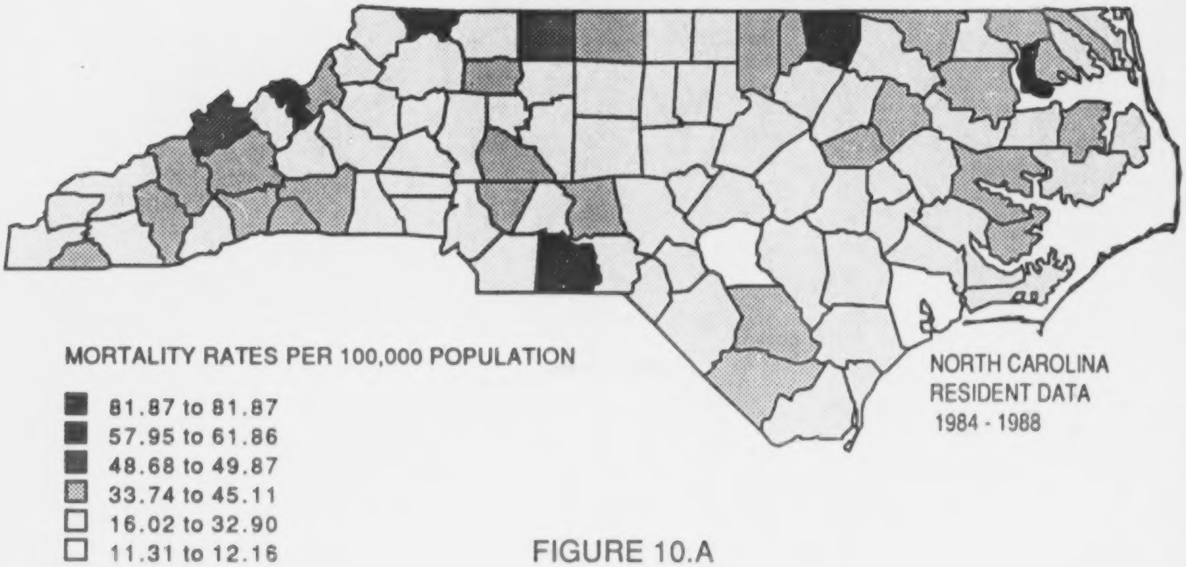

MORTALITY RATES PER 100,000 POPULATION
■ 81.87 to 81.87
■ 57.95 to 61.86
■ 48.68 to 49.87
▨ 33.74 to 45.11
□ 16.02 to 32.90
□ 11.31 to 12.16
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 10.A

PNEUMONIA AND INFLUENZA

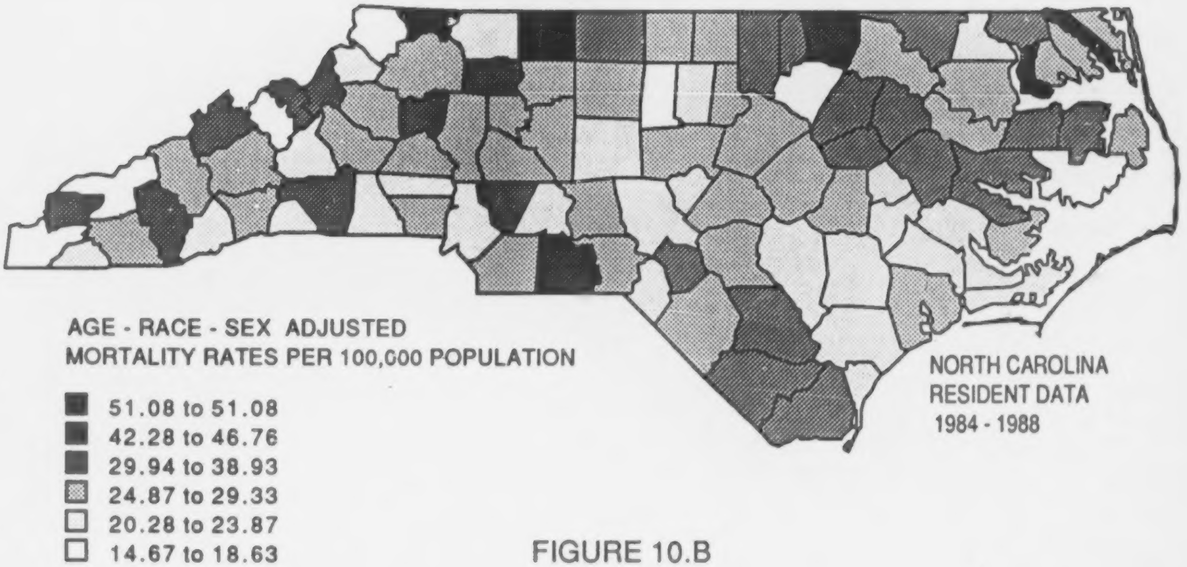

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 51.08 to 51.08
■ 42.28 to 46.76
■ 29.94 to 38.93
▨ 24.87 to 29.33
□ 20.28 to 23.87
□ 14.67 to 18.63
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 10.B

CHRONIC OBSTRUCTIVE PULMONARY DISEASE AND ALLIED CONDITIONS

In 1988 a total of 2,098 North Carolinians died from chronic obstructive pulmonary disease or one of its allied conditions (i.e., bronchitis, emphysema, asthma, and other chronic obstructive pulmonary diseases and allied conditions). The rate of 32.3 deaths per 100,000 population was up 15 percent from 28.1 in 1987. This increase is similarly evident when one compares the five-year period 1979-83 to 1984-88; the crude mortality rate for chronic obstructive pulmonary disease (COPD) increased 28 percent from 21.9 to 28.1. This upward trend contrasts with declines or stabilizations in rates for many other leading causes of death.

Even when adjusting for age, mortality rates have risen substantially since the five-year period 1979-83, up 15.5 percent in 1984-88. The largest increases were for white females (up 42 percent), nonwhite males (up 20 percent), and nonwhite females (up 21 percent). As white males have accounted for over half of COPD deaths since 1980, their relatively modest three percent rise offset the other increases to some extent.

The 1987 North Carolina age-adjusted mortality rate for COPD was six percent below the United States rate (3). In 1986 35 states ranked higher than North Carolina in smoking-related obstructive pulmonary disease mortality (11).

COPD was the fifth leading cause of death in 1988, moving up from sixth place in 1980. An examination of the 1988 race-sex-specific rates rankings (unadjusted for age) reveals that COPD was the fifth leading cause of death for white males (46.7), sixth for white females (28.5), seventh for nonwhite males (27.6), and thirteenth for nonwhite females (7.3). COPD was North Carolina's seventh leading cause of potential years of life lost, accounting for 156 years lost per 100,000 population.

Rates of COPD mortality increase with age. In the period 1984-88 over 77 percent of such deaths were to persons 65 and older.

RISK FACTORS

Evidence over the past 25 years indicates that cigarette smoking is the most important risk factor for the development of chronic bronchitis and obstructive airways disease. While there is no way to reverse or repair COPD damage to the airways and lungs, treatment is aimed at slowing the progress of the disease and lessening the discomfort of the symptoms (12). Occupational exposure to various dusts and air pollution have also been implicated as risk factors (10).

That COPD mortality is increasing would seem to be inconsistent with the significant decline in the prevalence of smoking since the first Surgeon General's Report on the Health Consequences of Smoking in 1964. The lengthy period of latency between smoking exposure and COPD onset explains this seeming inconsistency (11).

GEOGRAPHIC PATTERNS

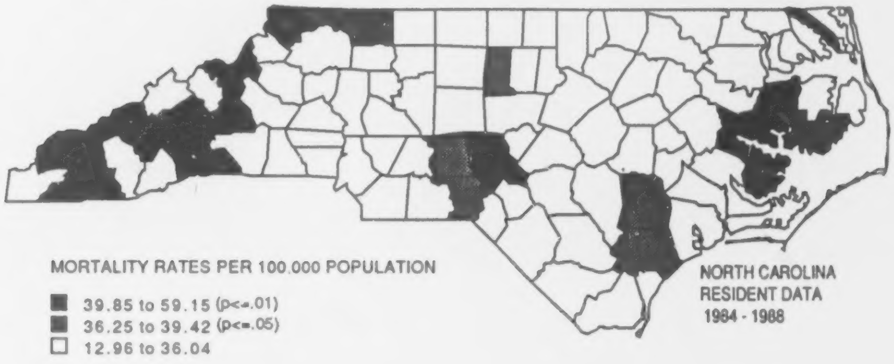
Figures 11.A and 11.B depict the county unadjusted and age-race-sex-adjusted 1984-88 rates for COPD. As shown in Figure 11.A, most of the 100 North Carolina counties have relatively low mortality rates (lowest three levels). Twelve counties concentrated in the westernmost portion of the DHR Western Region had high rates, as did two North Central counties, three South

Central counties, and three in the Eastern Region.

After adjusting for age, race, and sex differences, the pattern of COPD mortality changes. Only seven of the 12 counties in the Western Region still had relatively high rates. However, a 26-county contiguous area from Montgomery and Richmond in the South Central to Bertie and Washington in the Eastern Region exhibited rates in the three highest levels. Seven counties in the North Central Region also had high adjusted rates. The basic geographic pattern of high adjusted and unadjusted rates is similar to that observed in 1979-81, although more contiguous counties are involved (10).

Procedures described in Section II were used to test whether clustering of counties with high unadjusted and/or age-race-sex adjusted rates was statistically significant. An examination of the map below shows significant clustering of 12 high unadjusted rate counties in the westernmost portion of the DHR Western Region, with additional small clusters elsewhere.

CHRONIC OBSTRUCTIVE PULMONARY DISEASES


MORTALITY RATES PER 100,000 POPULATION
■ 39.85 to 59.15 (p<=.01)
▨ 36.25 to 39.42 (p<=.05)
□ 12.96 to 36.04
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

After adjusting for age, race, and sex, the pattern of clustering changes, as shown on the following map. A three-county cluster remains in the west, while the number of adjacent high-rate counties in the east and south has increased. These data suggest that age-race-sex differences may account for most clustering of high rate western counties, but these variables cannot explain the clustering that occurs among counties in the east and southeast.

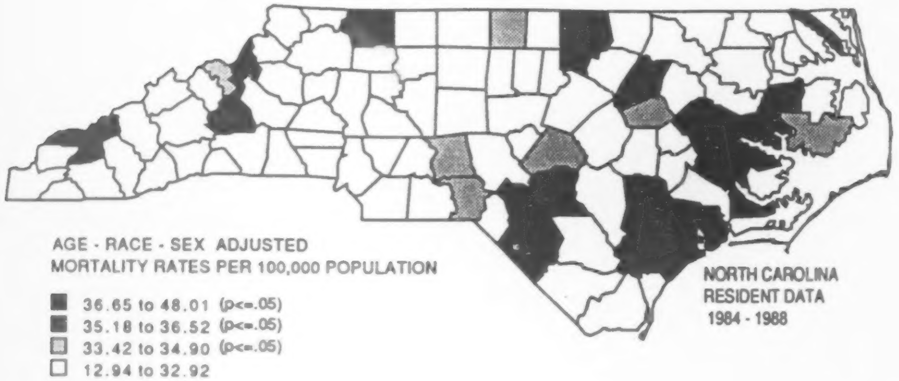

CHRONIC OBSTRUCTIVE PULMONARY DISEASES
AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 36.65 to 48.01 (p<=.05)
■ 35.18 to 36.52 (p<=.05)
▨ 33.42 to 34.90 (p<=.05)
☐ 12.94 to 32.92
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

TABLE-14

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CHRONIC OBSTRUCTIVE PULMONARY DISEASES

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	2098	32.33	8883	28.07	28.07
REGIONS					
DHR I WESTERN	740	33.28	3202	29.54	26.46
DHR II N. CENTRAL	487	35.72	2022	30.31	28.51
DHR III S. CENTRAL	423	27.59	1751	23.57	29.11
DHR IV EASTERN	448	32.75	1908	28.44	30.80
HSA I WESTERN	443	40.43	1888	35.01	28.46
HSA II PIEDMONT	438	36.45	1787	30.36	28.70
HSA III S. PIEDMONT	297	26.33	1314	24.13	24.24
HSA IV CAPITAL	237	24.44	1047	22.61	26.59
HSA V CARDINAL	317	32.57	1268	26.53	30.04
HSA VI EASTERN	366	32.68	1579	28.64	31.61
COUNTIES					
1 ALAMANCE	63	59.48	204	39.41	32.59
2 ALEXANDER	6	21.76	28	20.80	22.76
3 ALLEGHANY	3	30.55	18	36.84	21.41
4 ANSON	8	30.48	17	12.96	12.94
5 ASHE	9	38.31	57	48.83	28.39
6 AVERY	15	98.33	39	51.73	40.53
7 BEAUFORT	23	54.20	90	42.53	37.87
8 BERTIE	9	42.77	31	29.24	32.31
9 BLADEN	14	45.26	39	25.30	25.77
10 BRUNSWICK	12	23.54	57	24.00	23.03
11 BUNCOMBE	86	49.65	352	41.45	32.71
12 BURKE	27	34.92	112	29.45	27.46
13 CABARRUS	31	32.31	144	30.81	26.66
14 CALDWELL	19	26.59	95	27.02	29.03
15 CAMDEN	7	115.56	13	44.01	40.00
16 CARTERET	13	25.47	81	32.88	26.85
17 CASWELL	8	36.04	36	32.36	33.67
18 CATAWBA	30	25.56	135	23.65	23.63
19 CHATHAM	14	38.10	42	23.40	21.09
20 CHEROKEE	5	23.60	37	36.04	23.98
21 CHOWAN	5	36.50	21	31.47	25.81
22 CLAY	0	0.00	17	47.54	25.79
23 CLEVELAND	27	30.99	130	30.21	27.82
24 COLUMBUS	16	30.44	73	27.90	27.33
25 CRAVEN	27	33.09	105	26.29	37.10
26 CUMBERLAND	46	18.06	220	17.26	36.07
27 CURRITUCK	5	35.74	18	26.87	27.76
28 DARE	3	13.97	21	22.42	19.38
29 DAVIDSON	39	31.37	171	28.19	27.61
30 DAVIE	14	50.27	36	26.71	25.50
31 DUPLIN	20	48.01	79	37.97	35.33
32 DURHAM	32	18.66	168	20.31	23.04
33 EDGECOMBE	18	30.05	75	25.45	29.97
34 FORSYTH	112	42.04	419	32.11	31.86
35 FRANKLIN	8	22.57	38	22.46	20.45
36 GASTON	50	28.70	226	26.29	25.33
37 GATES	3	30.64	13	27.28	22.41
38 GRAHAM	3	42.75	17	47.66	30.91
39 GRANVILLE	12	30.78	61	32.50	35.17
40 GREENE	5	30.51	24	29.11	32.73
41 GUILFORD	101	29.98	469	28.39	27.99

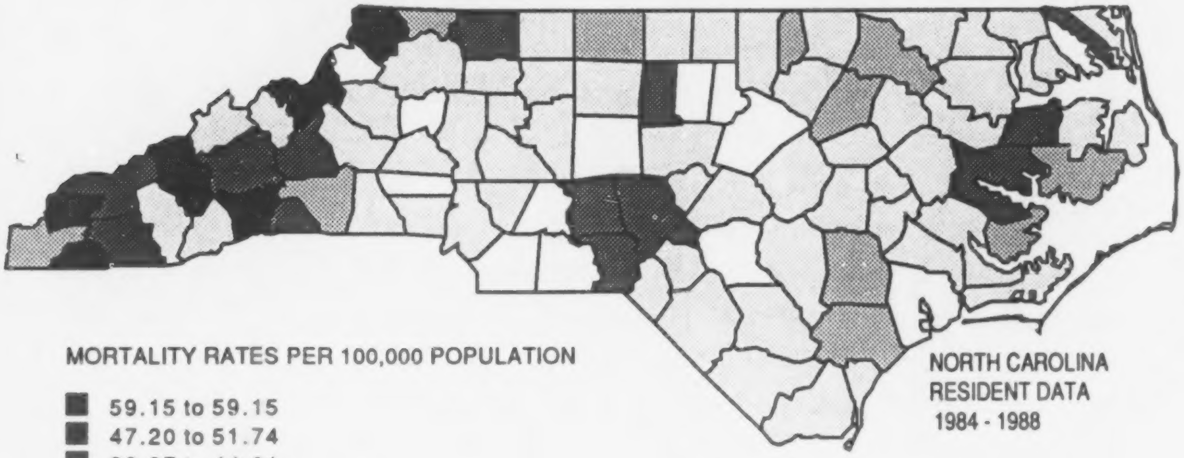
* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CHRONIC OBSTRUCTIVE PULMONARY DISEASES CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	18	31.66	96	34.10	31.13
43 HARNETT	24	36.20	99	30.89	33.95
44 HAYWOOD	27	55.93	121	50.34	30.53
45 HENDERSON	44	63.53	158	47.20	28.12
46 HERTFORD	7	29.57	32	26.83	26.68
47 HOKE	10	41.71	29	25.07	48.01
48 HYDE	4	70.45	11	37.61	33.45
49 IREDELL	27	29.47	104	23.43	20.70
50 JACKSON	7	25.87	39	29.00	26.45
51 JOHNSTON	29	35.95	111	28.45	27.33
52 JONES	4	40.62	16	32.45	31.58
53 LEE	11	26.22	62	30.34	31.83
54 LENOIR	22	36.48	75	24.82	26.10
55 LINCOLN	6	12.34	47	20.25	21.08
56 MCDOWELL	20	55.03	76	41.89	36.50
57 MACON	10	42.72	48	41.54	19.98
58 MADISON	6	34.81	21	24.35	15.48
59 MARTIN	11	41.63	42	31.68	29.39
60 MECKLENBURG	115	24.15	526	23.17	27.35
61 MITCHELL	11	74.83	43	59.14	33.42
62 MONTGOMERY	10	41.37	47	39.25	34.61
63 MOORE	31	52.26	120	42.55	30.91
64 NASH	17	23.37	126	35.27	36.44
65 NEW HANOVER	40	34.06	153	26.80	28.73
66 NORTHAMPTON	7	31.66	27	24.09	18.93
67 ONSLOW	23	18.32	103	16.65	39.13
68 ORANGE	15	16.95	70	16.56	22.59
69 PAMLICO	4	36.42	20	36.64	28.62
70 PASQUOTANK	11	35.85	28	18.66	18.51
71 PENDER	14	51.69	46	36.24	35.75
72 PERQUIMANS	6	54.38	16	30.47	20.32
73 PERSON	9	28.64	45	29.99	26.99
74 PITT	31	30.39	152	30.96	40.61
75 POLK	9	61.13	31	42.63	26.08
76 RANDOLPH	29	28.22	99	19.95	17.96
77 RICHMOND	21	45.79	89	38.97	34.90
78 ROBESON	43	39.80	153	28.70	36.65
79 ROCKINGHAM	26	30.06	145	33.85	30.75
80 ROWAN	39	36.61	154	29.57	22.92
81 RUTHERFORD	27	46.70	100	34.99	26.15
82 SAMPSON	19	37.33	84	33.25	30.35
83 SCOTLAND	9	25.93	42	24.69	31.69
84 STANLY	11	21.54	53	21.05	16.03
85 STOKES	10	27.40	45	25.18	24.83
86 SURRY	25	40.25	120	39.13	35.85
87 SWAIN	7	66.55	23	43.22	36.52
88 TRANSYLVANIA	14	53.45	39	30.39	22.78
89 TYRRELL	1	24.42	6	29.18	27.42
90 UNION	18	21.42	60	14.98	16.65
91 VANCE	15	38.19	68	35.15	37.35
92 WAKE	87	22.39	359	19.71	28.46
93 WARREN	5	30.07	22	26.68	23.64
94 WASHINGTON	7	47.81	29	39.85	42.30
95 WATAUGA	10	28.84	34	19.81	25.49*
96 WAYNE	37	37.51	131	26.66	32.92
97 WILKES	20	32.55	96	31.51	29.06
98 WILSON	18	27.44	98	30.21	33.86
99 YADKIN	11	36.27	43	28.95	19.78
100 YANCEY	1	6.24	22	27.89	16.54

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

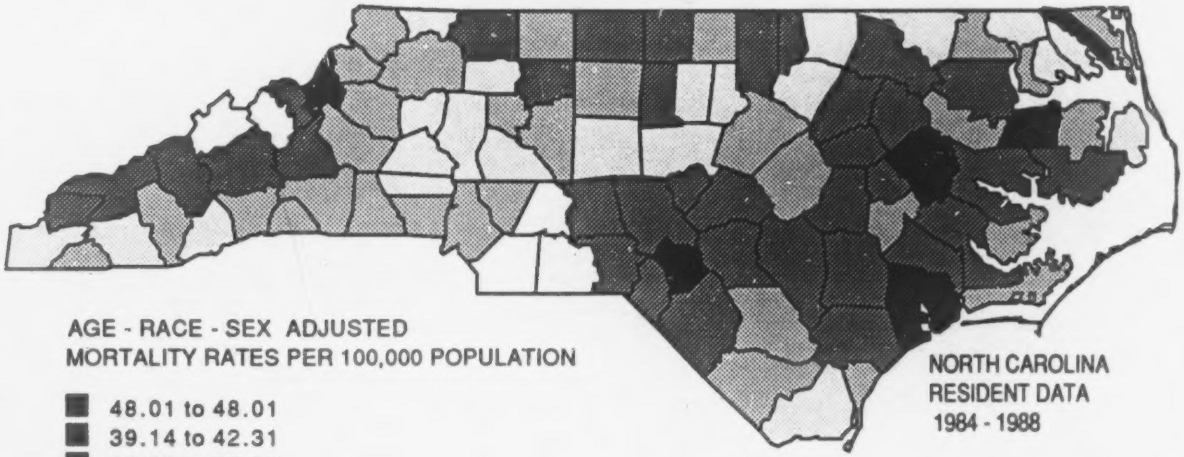
CHRONIC OBSTRUCTIVE PULMONARY DISEASES


MORTALITY RATES PER 100,000 POPULATION
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

■ 59.15 to 59.15
■ 47.20 to 51.74
■ 38.97 to 44.01
▨ 33.86 to 37.97
☐ 22.42 to 33.26
☐ 12.96 to 21.05

FIGURE 11.A

CHRONIC OBSTRUCTIVE PULMONARY DISEASES


AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

■ 48.01 to 48.01
■ 39.14 to 42.31
■ 29.97 to 37.87
▨ 24.84 to 29.40
☐ 17.97 to 23.99
☐ 12.94 to 16.65

FIGURE 11.B

CHRONIC LIVER DISEASE AND CIRRHOSIS

For both the state and the nation, mortality from chronic liver disease and cirrhosis continues to be a serious problem. Ranked as the ninth leading cause of death in North Carolina during 1988, a total of 701 persons died of chronic liver disease and cirrhosis, a rate of 10.8 deaths per 100,000 population. The comparable United States rate for 1987 was also 10.8. After adjusting for differences in age structure, the North Carolina and United States 1987 rates were also nearly identical. (3)

Recent trends indicate that the risk of chronic liver disease and cirrhosis mortality has declined. Comparing age-adjusted rates in the 1979-83 and 1984-88 periods, cirrhosis mortality decreased by 15 percent. Each race-sex group experienced declines between the two periods, with white males showing the largest percent decline (20%). Nonwhite males, who had the highest rate in 1984-88, experienced the smallest decline (9%). Male rates are generally twice as high as female rates, and nonwhite rates twice as high as white rates.

Although cirrhosis is not always alcohol-related, most of the cases are. In 1988 about 54 percent of the chronic liver disease deaths to N.C. residents were reported as resulting from the use of alcohol. This percentage is conservative since unspecified cirrhosis is probably alcoholic cirrhosis much of the time. Approximately 38 percent of the total deaths from chronic liver disease and cirrhosis involved unspecified cirrhosis of the liver. Other studies have estimated that as much as 85% of chronic liver disease and cirrhosis deaths can be attributed to alcohol abuse (13).

Examining conditions mentioned on death certificates (see Section IX), 1,052 decedents in 1988 had chronic liver disease and cirrhosis as a mentioned condition. Of these, 66 percent had chronic liver disease and cirrhosis as the underlying cause. Further, 1,634 decedents had an alcohol-related condition (including alcoholic cirrhosis) mentioned on their death certificate, though underreporting of alcohol involvement on death certificates is known to be high. Of these decedents, 23 percent had chronic liver disease and cirrhosis as the underlying cause. Other underlying causes (with percent) for decedents with a mention of an alcohol-related condition were: all other accidents and adverse effects (13%), heart disease (14%), and motor vehicle accidents (9%). Notable also are findings that almost half of the known decedents with an alcohol-related condition died from an accident or cirrhosis of the liver.

GEOGRAPHIC PATTERNS

Unadjusted and age-race-sex-adjusted rates for 1984-88 are mapped in Figures 12.A and 12.B respectively. No clear geographic pattern is evident from these maps. Neither were there any statistically significant adjacencies among the high-rate counties, although counties with high rates are mostly rural. Problems of alcohol abuse are spread all across North Carolina.

TABLE - 15

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

CHRONIC LIVER DISEASE AND CIRRHOSIS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	701	10.80	3169	10.01	10.01
REGIONS					
DHR I WESTERN	234	10.52	1049	9.68	10.12
DHR II N. CENTRAL	148	10.85	690	10.34	9.89
DHR III S. CENTRAL	168	10.96	680	9.15	9.86
DHR IV EASTERN	151	11.03	750	11.18	11.22
HSA I WESTERN	110	10.03	524	9.71	10.63
HSA II PIEDMONT	131	10.90	611	10.38	10.17
HSA III S. PIEDMONT	124	10.99	525	9.64	9.86
HSA IV CAPITAL	98	10.10	390	8.42	8.80
HSA V CARDINAL	119	12.22	508	10.63	11.19
HSA VI EASTERN	119	10.62	611	11.08	11.22
COUNTIES					
1 ALAMANCE	13	12.27	55	10.62	9.33
2 ALEXANDER	2	7.25	7	5.20	6.68
3 ALLEGHANY	0	0.00	4	8.18	28.90 *
4 ANSON	2	7.62	12	9.15	8.52
5 ASHE	3	12.77	6	5.14	3.66
6 AVERY	2	13.11	12	15.91	26.52 *
7 BEAUFORT	5	11.78	32	15.12	14.36
8 BERTIE	2	9.50	9	8.49	8.18
9 BLADEN	5	16.16	10	6.48	6.19
10 BRUNSWICK	10	19.62	33	13.89	13.09
11 BUNCOMBE	15	8.66	85	10.01	9.81
12 BURKE	7	9.05	43	11.30	13.39
13 CABARRUS	8	8.33	43	9.20	8.77
14 CALDWELL	4	5.59	26	7.39	10.32
15 CAMDEN	0	0.00	1	3.38	2.29
16 CARTERET	5	9.79	31	12.58	10.64
17 CASWELL	0	0.00	10	8.99	9.52
18 CATAWBA	8	6.81	51	8.93	9.20
19 CHATHAM	2	5.44	6	3.34	3.12
20 CHEROKEE	4	18.88	18	17.53	15.85
21 CHOWAN	0	0.00	5	7.49	7.08
22 CLAY	0	0.00	5	13.98	10.19
23 CLEVELAND	14	16.07	57	13.24	13.35
24 COLUMBUS	4	7.61	21	8.02	7.14
25 CRAVEN	3	3.67	30	7.51	9.65
26 CUMBERLAND	24	9.42	123	9.65	13.40
27 CURRITUCK	3	21.44	7	10.45	9.79
28 DARE	0	0.00	10	10.67	9.11
29 DAVIDSON	6	4.82	47	7.74	7.66
30 DAVIE	2	7.18	8	5.93	5.86
31 DUPLIN	6	14.40	23	11.05	10.53
32 DURHAM	25	14.57	83	10.03	9.76
33 EDGECOMBE	9	15.02	47	15.95	14.37
34 FORSYTH	37	13.89	180	13.79	13.10
35 FRANKLIN	2	5.64	18	10.64	10.31
36 GASTON	29	16.64	121	14.07	15.07
37 GATES	1	10.21	6	12.59	15.26
38 GRAHAM	1	14.25	3	8.41	6.20
39 GRANVILLE	4	10.26	12	6.39	4.94
40 GREENE	1	6.10	8	9.70	8.82
41 GUILFORD	35	10.39	155	9.38	9.06

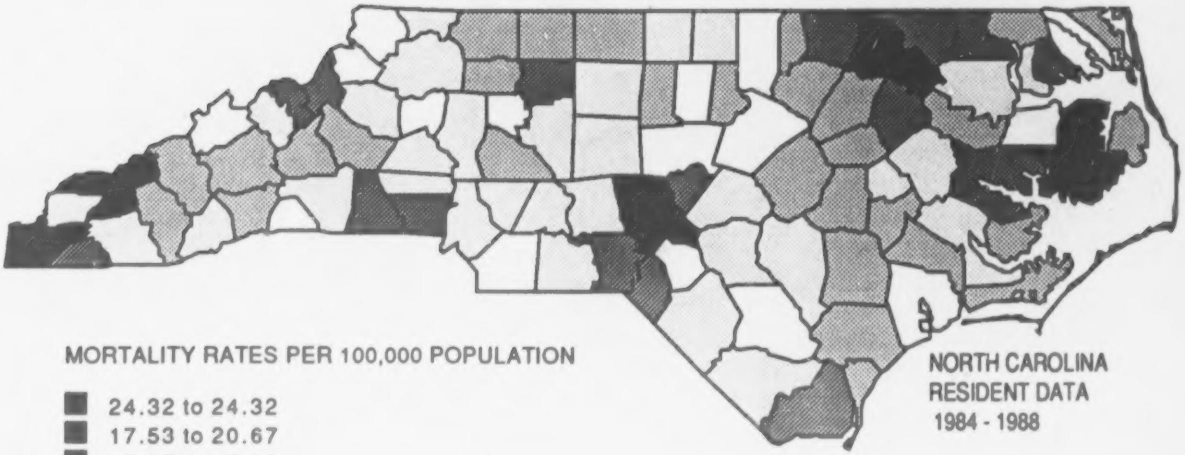
* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
CHRONIC LIVER DISEASE AND CIRRHOSIS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	21	36.94	51	18.12	14.71
43 HARNETT	10	15.08	24	7.48	7.88
44 HAYWOOD	9	18.64	26	10.81	7.57
45 HENDERSON	11	15.88	34	10.15	6.56
46 HERTFORD	3	12.67	18	15.09	13.73
47 HOKE	1	4.17	8	6.91	7.60
48 HYDE	0	0.00	6	20.51	23.17
49 IREDELL	10	10.91	41	9.23	9.03
50 JACKSON	3	11.09	14	10.41	12.15
51 JOHNSTON	11	13.63	43	11.02	10.78
52 JONES	0	0.00	6	12.16	9.16
53 LEE	7	16.69	29	14.19	14.30
54 LENOIR	7	11.60	39	12.90	11.98
55 LINCOLN	5	10.29	18	7.75	8.06
56 MCDOWELL	8	22.01	20	11.02	10.13
57 MACON	1	4.27	9	7.78	4.16
58 MADISON	0	0.00	4	4.63	3.65
59 MARTIN	2	7.57	15	11.31	9.36
60 MECKLENBURG	57	11.97	205	9.03	9.01
61 MITCHELL	2	13.60	10	13.75	9.81
62 MONTGOMERY	4	16.54	10	8.35	7.90
63 MOORE	14	23.60	55	19.50	17.07
64 NASH	7	9.62	43	12.03	11.96
65 NEW HANOVER	14	11.92	70	12.26	12.65
66 NORTHAMPTON	5	22.61	15	13.38	9.45
67 ONSLOW	3	2.39	38	6.14	10.41
68 ORANGE	6	6.78	26	6.15	8.25
69 PAMLICO	1	9.10	7	12.82	10.03
70 PASQUOTANK	1	3.25	8	5.33	4.82
71 PENDER	4	14.76	15	11.81	10.58
72 PERQUIMANS	1	9.06	8	15.23	14.76
73 PERSON	3	9.54	13	8.47	7.86
74 PITT	9	8.82	44	8.96	10.52
75 POLK	1	6.79	4	5.50	6.20
76 RANDOLPH	9	8.75	38	7.66	9.57
77 RICHMOND	9	19.62	34	14.88	13.76
78 ROBESON	9	8.33	45	8.44	8.96
79 ROCKINGHAM	14	16.18	50	11.67	11.13
80 ROWAN	8	7.51	54	10.37	9.89
81 RUTHERFORD	3	5.18	27	9.44	9.30
82 SAMPSON	8	15.71	24	9.50	9.69
83 SCOTLAND	1	2.88	24	14.11	14.62
84 STANLY	2	3.91	20	7.94	8.04
85 STOKES	3	8.22	18	10.07	10.91
86 SURRY	8	12.88	34	11.08	13.67
87 SWAIN	3	28.52	11	20.67	19.98
88 TRANSYLVANIA	3	11.45	11	8.57	10.43
89 TYRRELL	3	73.26	5	24.32	18.04
90 UNION	5	5.95	23	5.74	6.74
91 VANCE	4	10.18	24	12.40	12.33
92 WAKE	30	7.72	124	6.80	8.06
93 WARREN	4	24.06	12	14.55	11.06
94 WASHINGTON	1	6.83	5	6.87	7.37
95 WATAUGA	0	0.00	7	4.07	13.93
96 WAYNE	12	12.16	53	10.78	10.33
97 WILKES	5	8.13	24	7.87	9.21
98 WILSON	8	12.19	41	12.64	11.79
99 YADKIN	4	13.19	16	10.77	15.54
100 YANCEY	1	6.24	6	7.60	5.79

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

CHRONIC LIVER DISEASE AND CIRRHOSIS



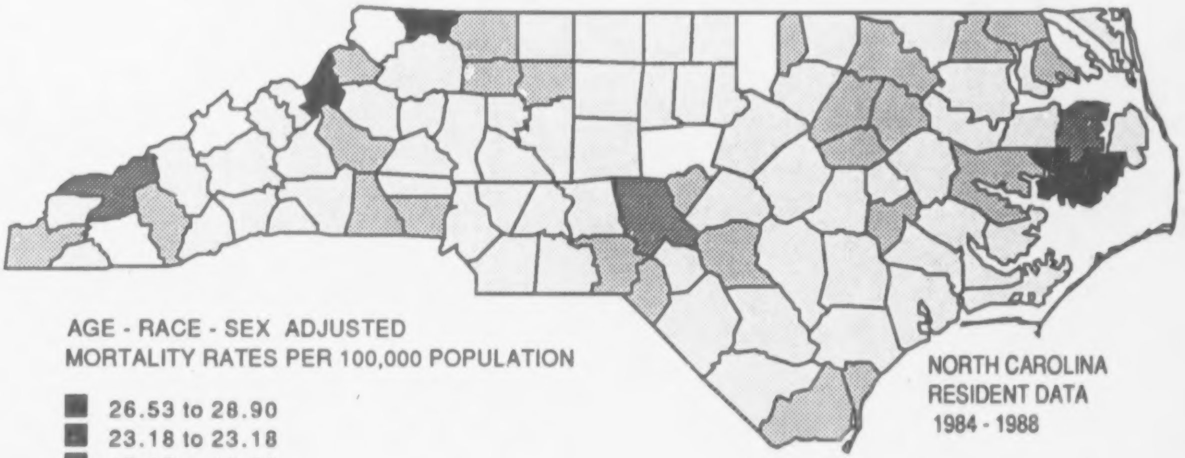
MORTALITY RATES PER 100,000 POPULATION

■ 24.32 to 24.32
■ 17.53 to 20.67
■ 13.25 to 15.95
▨ 10.01 to 12.91
☐ 7.40 to 9.70
☐ 3.34 to 6.92

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 12.A

CHRONIC LIVER DISEASE AND CIRRHOSIS



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

■ 26.53 to 28.90
■ 23.18 to 23.18
■ 17.07 to 19.98
▨ 11.79 to 15.85
☐ 5.79 to 11.13
☐ 2.29 to 4.95

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 12.B

NEPHRITIS, NEPHROSIS AND NEPHROTIC SYNDROME

Nephritis, nephrotic syndrome, and nephrosis are diseases of the kidney. Nephritis is kidney failure, characterized by inflammation of the kidney, regardless of the causal agent (14). Nephrosis and nephrotic syndrome are synonymous for a condition in which excessive amounts of protein are excreted in the urine (15). Because the conditions are so closely related, they are lumped together for statistical purposes and will be referred to as nephritis/nephrosis in this section.

Four-hundred-sixty-nine North Carolinians died from nephritis/nephrosis in 1988. The nephritis/nephrosis death rate rose steadily during the early 1980's to peak at 9.9 deaths per 100,000 population in 1985. Since then, however, the rate has dropped substantially. The rate for nephritis/nephrosis in 1988, 7.2 deaths per 100,000 population, was the lowest since the change of ICD codes in 1979. Major changes in the coding classification make comparisons with years prior to 1979 problematic.

North Carolina's age-adjusted nephritis/nephrosis mortality rate compares favorably with the United State's rate, being nine percent lower (3).

Compared to 1979-83, race-sex-specific age-adjusted rates for 1984-88 show the following decreases: white males, 18 percent; white females, 6 percent; nonwhite males, 8 percent; and nonwhite females, 16 percent.

RISK FACTORS

Elderly persons are at higher risk of nephritis/nephrosis mortality than are younger persons. Nearly 80 percent of nephritis and nephrosis deaths were to persons age 65 and older in 1988. However, over 30 percent of nephritis/nephrosis deaths were specified as chronic, indicating a long-term health problem. Probably a larger percentage of deaths due to nephritis/nephrosis are chronic than is indicated on the death certificate.

Hypertension, heart disease and diabetes are conditions which are often associated with nephritis/nephrosis. When nephritis/nephrosis was listed as the underlying cause of death in 1988, 291 death certificates (62%) indicated that the decedent also had heart disease. When the underlying cause of death was heart disease, 887 certificates also listed nephritis/nephrosis as a significant condition present at death. Other causes of death with frequent mentions of nephritis/nephrosis were: cerebrovascular disease, 115; cancer, 416; diabetes, 210; pneumonia/influenza, 122. Nephritis/nephrosis was mentioned as a significant condition present at death on a total of 3,149 death certificates.

Because more people are bringing their hypertension under control, death rates from strokes and heart disease are declining. But the death rate for hypertension with renal disease is going up, suggesting that hypertension control drugs affect stroke and heart attack but not renal diseases (16).

GEOGRAPHIC PATTERNS

Due to the relatively low numbers of deaths for which nephritis was reported as the underlying cause in many counties, in addition to the substantially higher numbers of nephritis mentions, the maps on nephritis use mentioned conditions rather than underlying cause data. These maps are presented in Section IX and show that any clustering was probably due to age-race-sex differences among the counties.

TABLE-16

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

NEPHRITIS AND NEPHROSIS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	469	7.22	2641	8.34	8.34
REGIONS					
DHR I WESTERN	146	6.56	840	7.75	7.98
DHR II N. CENTRAL	94	6.89	548	8.21	7.92
DHR III S. CENTRAL	109	7.11	609	8.20	8.92
DHR IV EASTERN	120	8.77	644	9.59	8.68
HSA I WESTERN	66	6.20	419	7.77	7.68
HSA II PIEDMONT	75	6.24	452	7.68	7.76
HSA III S. PIEDMONT	78	6.91	421	7.73	8.28
HSA IV CAPITAL	71	7.32	398	8.59	8.76
HSA V CARDINAL	62	8.42	430	8.99	9.20
HSA VI EASTERN	95	8.48	521	9.45	8.50
COUNTIES					
1 ALAMANCE	11	10.38	54	10.43	9.12
2 ALEXANDER	0	0.00	4	2.97	4.66
3 ALLEGHANY	1	10.18	5	10.23	6.04
4 ANSON	6	22.86	14	10.67	8.96
5 ASHE	2	8.51	15	12.85	7.44
6 AVERY	1	6.55	6	7.95	6.99
7 BEAUFORT	3	7.07	24	11.34	8.48
8 BERTIE	4	19.01	18	16.98	14.83
9 BLADEN	5	16.16	22	14.27	12.62
10 BRUNSWICK	1	1.96	11	4.63	4.54
11 BUNCOMBE	9	5.19	53	6.24	4.59
12 BURKE	4	5.17	23	6.04	7.09
13 CABARRUS	5	5.21	29	6.20	6.43
14 CALDWELL	4	5.59	21	5.97	8.13
15 CAMDEN	0	0.00	3	10.15	8.36
16 CARTERET	3	5.87	16	6.49	7.56
17 CASWELL	1	4.50	9	8.09	7.35
18 CATAWBA	14	11.93	48	8.41	11.19
19 CHATHAM	3	8.16	21	11.70	9.90
20 CHEROKEE	0	0.00	6	5.84	3.26
21 CHOWAN	0	0.00	5	7.49	4.44
22 CLAY	1	13.74	2	5.59	3.19
23 CLEVELAND	6	6.88	34	7.90	7.71
24 COLUMBUS	11	20.92	47	17.96	15.09
25 CRAVEN	4	4.90	30	7.51	9.58
26 CUMBERLAND	9	3.53	59	4.62	8.45
27 CURRITUCK	1	7.14	3	4.47	4.81
28 DARE	4	18.63	7	7.47	11.91 *
29 DAVIDSON	10	8.04	50	8.24	10.40
30 DAVIE	1	3.59	10	7.41	8.32
31 DUPLIN	10	24.00	37	17.78	13.26
32 DURHAM	14	8.16	85	10.27	9.57
33 EDGECOMBE	7	11.68	28	9.50	6.25
34 FORSYTH	12	4.50	100	7.66	7.35
35 FRANKLIN	4	11.28	18	10.64	7.00
36 GASTON	12	6.88	70	8.14	9.63
37 GATES	0	0.00	5	10.49	5.06
38 GRAHAM	2	28.50	5	14.01	10.12
39 GRANVILLE	3	7.69	21	11.18	7.27
40 GREENE	1	6.10	7	8.49	9.78
41 GUILFORD	14	4.15	110	6.66	6.69

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
NEPHRITIS AND NEPHROSIS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	7	12.31	45	15.98	9.58
43 HARNETT	4	6.03	29	9.04	9.73
44 HAYWOOD	4	8.28	18	7.48	5.53
45 HENDERSON	1	1.44	31	9.26	6.21
46 HERTFORD	1	4.22	12	10.06	5.61
47 HOKE	2	8.34	9	7.78	6.45
48 HYDE	0	0.00	3	10.25	8.04
49 IREDELL	8	8.73	43	9.68	9.91
50 JACKSON	1	3.69	13	9.66	11.41
51 JOHNSTON	5	6.19	31	7.94	8.14
52 JONES	0	0.00	5	10.14	9.99
53 LEE	5	11.92	36	17.61	18.06
54 LENOIR	6	9.95	44	14.56	11.95
55 LINCOLN	2	4.11	16	6.89	10.01
56 MCDOWELL	4	11.00	17	9.37	8.41
57 MACON	1	4.27	9	7.78	3.78
58 MADISON	1	5.80	7	8.11	4.68
59 MARTIN	4	15.14	21	15.84	9.32
60 MECKLENBURG	28	5.88	167	7.35	8.24
61 MITCHELL	0	0.00	7	9.62	5.57
62 MONTGOMERY	2	8.27	16	13.36	11.65
63 MOORE	4	6.74	28	9.93	7.61
64 NASH	9	12.37	31	8.67	7.94
65 NEW HANOVER	9	7.66	51	8.93	9.20
66 NORTHAMPTON	2	9.04	15	13.38	9.76
67 ONSLOW	3	2.39	25	4.04	9.31
68 ORANGE	5	5.65	22	5.20	6.42
69 PAMLICO	1	9.10	2	3.66	3.71
70 PASQUOTANK	2	6.51	13	8.66	6.86
71 PENDER	4	14.76	14	11.03	8.02
72 PERQUIMANS	0	0.00	9	17.14	9.23
73 PERSON	6	19.09	17	11.08	9.75
74 PITT	7	6.86	37	7.53	7.11
75 POLK	3	20.37	10	13.75	8.48
76 RANDOLPH	10	9.73	38	7.66	11.10
77 RICHMOND	7	15.26	33	14.45	13.05
78 ROBESON	13	12.03	59	11.06	9.17
79 ROCKINGHAM	6	6.93	33	7.70	7.43
80 ROWAN	10	9.38	46	8.83	7.21
81 RUTHERFORD	3	5.18	23	8.04	7.27
82 SAMPSON	5	9.82	24	9.50	7.86
83 SCOTLAND	0	0.00	14	8.23	11.44
84 STANLY	4	7.83	22	8.73	8.24
85 STOKES	1	2.74	6	3.35	4.55
86 SURRY	8	12.88	32	10.43	8.19
87 SWAIN	1	9.50	11	20.67	14.92
88 TRANSYLVANIA	0	0.00	9	7.01	11.31
89 TYRRELL	1	24.42	1	4.86	2.22
90 UNION	9	10.71	28	6.99	7.79
91 VANCE	2	5.09	19	9.82	8.45
92 WAKE	20	5.14	107	5.87	8.02
93 WARREN	4	24.06	21	25.47	13.45
94 WASHINGTON	2	13.66	13	17.86	13.40
95 WATAUGA	0	0.00	8	4.66	9.61
96 WAYNE	9	9.12	40	8.14	7.54
97 WILKES	4	6.51	31	10.17	10.74
98 WILSON	4	6.09	22	6.78	7.21
99 YADKIN	1	3.29	10	6.73	4.81
100 YANCEY	1	6.24	3	3.80	2.70

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

REFERENCES FOR SECTION VI

1. Boyd, Robert F., Ph.D., and Hoerl, Bryan G., Ph.D., Basic Medical Biology. Third Edition. Little, Brown and Company, Boston, 1986.

2. Braude, Abraham I., M.D., Ph.D., Medical Microbiology and Infectious Diseases. W.B. Saunders Company, Philadelphia, 1985.

3. United States Department of Health and Human Services. Public Health Service, Centers for Disease Control, National Center for Health Statistics. Vital Statistics of the United States. 1987; Mortality Volume II. Part A. Hyattsville, MD, 1989.

4. Tuomilehto, J. "Primary Prevention of Diabetes Mellitus," Diabetes Care. Volume 10, Number 2, March-April 1987.

5. Santiogo, J.V., "Overview of the Complications of Diabetes," Clinical Chemistry. Volume 32, Number 10, October 1986.

6. Centers for Disease Control. "Chronic Diseases Reports: Deaths from Diabetes - United States 1986," MMWR. Volume 38, Number 31, 1989, pp 543-46.

7. N.C. Office of State Budget and Management, State Data Center. "Older Adults: 1980 Census," State Data Center Newsletter. Vol. 10, No. 3, December 1988, p.8.

8. Patrick, K.M.; Wolley, F.R. "A Cost-Benefit Analysis of Immunization for Pneumococcal Pneumonia," Journal of the American Medical Association. Vol. 245, No. 5, February 1981, pp. 473-477.

9. Dennehy, Penelope H. "Respiratory Infections in the Newborn," Clinics in Perinatology. Vol. 14, No. 3, September 1987, pp. 667-682.

10. North Carolina Department of Human Resources, Division of Health Services, State Center for Health Statistics. Leading Causes of Mortality, North Carolina Vital Statistics 1981 -- Volume 2. September 1983.

11. Centers for Disease Control. "Chronic Disease Reports: Chronic Obstructive Pulmonary Disease Mortality -- United States, 1986," Morbidity and Mortality Weekly Report. Vol. 38, No. 32, August 1989.

12. Anthonisen, Nicholas R. "Chronic Obstructive Pulmonary Disease," Canadian Medical Association Journal. Vol. 138, March 1988.

13. Hopkins DD, Grant-Worley JA, Bollinger TL. "Survey of Cause-of-Death Query Criteria Used by State Vital Statistics Programs in the US and the Efficacy of the Criteria Used by The Oregon Vital Statistics Program," American Journal of Public Health 1989; 79:570-574.

14. Klahr, Saulo. M.D. The Kidney and Body Fluids in Health and Disease. Plenum Medical Book Company, New York, 1983.

15. Mandal, Anin K., M.D. and Jennette, J. Charles, M.D. Diagnosis and Management of Renal Disease and Hypertension. Lea and Febiger, Philadelphia, 1988.

16. White, Marian S. Renal Disease Prevention Project: Draft for Discussion Only. Department of Environment, Health, and Natural Resources. Division of Adult Health. In progress.

VII. MAJOR EXTERNAL CAUSES OF MORTALITY

INJURIES

Injury is a major public health problem facing North Carolina in the decade of the nineties and beyond. Each year over 4,000 North Carolinians die from injuries. After heart disease, cancer, and stroke, injury ranks as the fourth leading cause of death in both the nation and the state. Injuries result in a larger death toll to children over the age of one than the total of the next six causes of mortality to that age group (1).

In this edition of Leading Causes of Mortality, the term "injuries" replaces "accidents" in the narrative portions. This usage is consistent with recommendations of the Governor's Task Force on Injury Prevention and Control. The connotation of "accidents" as random events beyond reasonable human control is considered an impediment to the prevention of injuries in North Carolina. Injuries are caused; therefore they can be prevented. The term "accidents" is used in the maps and tables to maintain continuity with nomenclature of the National Center for Health Statistics.

In contrast to the classification of diseases, injuries are categorized by the events or behaviors that preceded them and the imputed intent of those involved (1). By ICD codes, injury deaths (E800-E999) are routinely classified as unintentional (E800-E949) and intentional (E950-E978) with the unintentional category further subdivided into motor vehicle (E810-E825) and all other unintentional injury deaths (E800-E807, E826-E949). Intentional deaths are subdivided into homicide and legal intervention (E960-E978) and suicide (E950-E959). The remaining injury deaths (not presented by table or map) include those deaths for which intent cannot be determined (E980-E989) or deaths resulting from operations of war (E990-E999). In 1988 there were 25 deaths of these types (E980-E999).

In 1988 there were 4,601 total injury deaths of North Carolina residents that occurred in the state, representing a rate of 70.9 deaths per 100,000 population. Of these deaths, 70 percent were classed as unintentional and 30 percent as intentional. Motor vehicle crashes resulted in 1,598 deaths, the single largest category of injury deaths, with other unintentional causes resulting in 1,616 deaths. Suicide exceeded homicide with 784 North Carolinians taking their own lives and 578 dying at the hands of others.

Injuries have been labeled the "last remaining plague of the young" with more Americans aged 1-34 dying from injuries than from all other categories combined (2). Injury is the leading cause of death in the 1-44 age group. As a result, for the total population, years of potential life lost from injuries exceeds that of either cancer or heart disease. In 1988, a total of 140,842 years of potential life were lost by N.C. residents who died of injuries.

The economic cost of injury fatalities in North Carolina in 1988 is estimated to have been almost 1.5 billion dollars. This is based upon national estimates of medical cost and lost wages due to premature death (3). Some variation in the magnitude of the amount may result from different medical care costs and wage levels between the state and the nation.

UNINTENDED MOTOR VEHICLE INJURIES

Motor vehicle deaths accounted for 35 percent of total injury deaths (1,598 of 4,601) and 50 percent of the unintended injury deaths in the state in 1988. The death rate for unintended motor vehicle injuries was 24.6 per 100,000 population. The North Carolina age-adjusted unintended motor vehicle mortality rate for 1987 was 23 percent greater than the United States rate (4).

With the exception of 1986, motor vehicle death rates in the state have remained stable over the 1984-1988 period. Between 1985 and 1986 the death rate for motor vehicle injuries jumped by 11 percent from 24.2 to 26.9 per 100,000 population. A corresponding decrease of 8.5 percent between 1986 and 1987 resulted in a convergence of the rate to near its 1985 level.

The age pattern of mortality from motor vehicle injuries in 1988 was characterized by a substantially higher rate in the 15-24 year age group than in other age categories. The unintended motor vehicle injury rate of 41.4 in the 15-24 year age group was 39 percent higher than the next highest age-specific rate (ages 25-34) and 49 percent higher than the rate for those 65 and older. Children between the ages of five and fourteen have the lowest risk of mortality from motor vehicle injuries.

An examination of race- and sex-specific rates indicates significantly higher unintended motor vehicle mortality in male and nonwhite populations. Based upon age-adjusted rates for 1987, white males experienced a 149 percent higher mortality rate from motor vehicle injuries than did white females. The corresponding difference for nonwhite males was a 250 percent excess over the nonwhite female rate. The age-adjusted mortality rate for nonwhite males was 42 percent greater than the rate for white males while the age-adjusted rates for white and nonwhite females were nearly identical. (4)

Excess mortality among North Carolinians is apparent in an examination of race-sex-specific age-adjusted mortality in the state and the nation. White males and females in North Carolina experienced rates 15 percent higher than their national counterparts. The rate for nonwhite males in the state was 67 percent higher than that for their national counterparts, and nonwhite females experienced a rate of unintended motor vehicle mortality 44 percent higher than that of nonwhite females in the United States.

Unlike diseases such as cancer or heart disease in which exposure to risks is often difficult to isolate, motor vehicle mortality is closely linked to use of automobiles, trucks, and motorcycles. While risk of death can be the result of walking along roadsides or riding a bicycle, the majority (84%) of motor vehicle deaths in North Carolina occur to drivers or passengers of motor vehicles on public roads. The Planning and Research Branch of the North Carolina Division of Highways publishes an annual estimate of the number of miles traveled based upon gasoline tax revenue. The mileage death rate for North Carolina in 1988 was 2.75 deaths per 100 million miles driven. This was down by 6.1 percent from 1987. The number of estimated miles traveled increased by 5.8 percent in the one-year period. (5)

RISK FACTORS

Alcohol was a major contributing factor to motor vehicle fatalities in North Carolina in 1988. Based on state Medical Examiner's* data, 56 percent of drivers in single vehicle crashes were legally intoxicated (.10 percent blood alcohol level), 19 percent of drivers of multiple vehicle crashes were intoxicated, and 41 percent of pedestrian victims were intoxicated. (6) A recent study of North Carolina crash data revealed that the drinking driver involved in a crash is at increased risk of serious injury or death relative to sober drivers (7).

A recent publication of the National Committee for Injury Prevention and Control states, "the connection is irrefutable; eliminating the mixture of alcohol consumption and automobiles would lead to dramatic decreases in death, injury, disability, and costs for all age groups" (8).

GEOGRAPHICAL PATTERNS

Figures 13.A and 13.B depict the county unadjusted and age-race-sex-adjusted rates for motor vehicle fatalities, while Table 17 presents numbers of deaths (as well as rates) for each county. The reader is cautioned that rates based on less than 20 events are generally unstable.

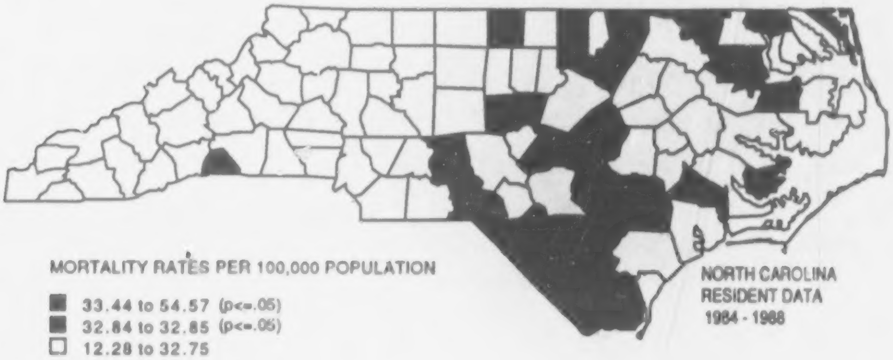
Figure 13.A shows that five of the nine counties in the two highest rate levels are in southcentral North Carolina. After adjustment for age, race, and sex (Figure 13.B), 13 of the 18 counties in the highest three levels are located in the eastern third of North Carolina.

---

*Medical Examiner's data are based on resident and nonresident deaths for specified causes. The addition of nonresident deaths should have a nominal effect on percentages cited in the text.

Based on procedures described in Section II of this volume, there was significant clustering of counties with high mortality rates in southcentral North Carolina, as well as smaller groupings of high rate counties along the Virginia border. However, after adjustment for age, race, and sex, there was no significant clustering of high-rate counties. Similar findings observed during 1979-81 (9) suggest that clustering depicted in the map below is due largely to age, race, and/or sex composition of the county populations.

MOTOR VEHICLE ACCIDENTS


MORTALITY RATES PER 100,000 POPULATION
■ 33.44 to 54.57 (p<=.05)
■ 32.84 to 32.85 (p<=.05)
☐ 12.28 to 32.75
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

PREVENTION STRATEGIES

Efforts to reduce the states' death toll from motor vehicle injuries can be classified as legislation/enforcement, education/behavior change, and engineering/technology.

Interventions that are likely to be effective in reducing deaths include raising the state's alcohol excise tax, implementing educational programs to reduce drinking and driving among youths and young adults, and improving roadways by painting edge lines to discriminate between road and nonroad surfaces.

The use of safety belts has been shown to reduce morbidity and mortality in motor vehicle crashes. It is estimated that seat belts reduce fatalities 40 to 50 percent (10). Enhanced enforcement of safety belt use laws has been shown to be effective in increasing compliance (11).

TABLE-17

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

MOTOR VEHICLE ACCIDENTS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1598	24.63	7870	24.87	24.87
REGIONS					
DHR I WESTERN	520	23.38	2467	22.76	22.89
DHR II N. CENTRAL	352	25.81	1598	23.95	24.41
DHR III S. CENTRAL	381	24.85	1971	26.54	25.52
DHR IV EASTERN	345	25.22	1834	27.33	26.59
HSA I WESTERN	269	24.55	1276	23.66	23.80
HSA II PIEDMONT	284	23.63	1331	22.61	22.99
HSA III S. PIEDMONT	251	22.25	1191	21.87	22.34
HSA IV CAPITAL	225	23.20	1100	23.75	23.18
HSA V CARDINAL	286	29.39	1493	31.24	30.27
HSA VI EASTERN	283	25.27	1479	26.83	25.81
COUNTIES					
1 ALAMANCE	28	26.43	110	21.25	21.67
2 ALEXANDER	8	29.02	44	32.69	33.42
3 ALLEGHANY	2	20.36	6	12.28	10.55
4 ANSON	11	41.92	40	30.50	28.87
5 ASHE	10	42.57	24	20.56	16.68
6 AVERY	7	45.88	18	23.87	18.86
7 BEAUFORT	11	25.92	55	25.99	27.75
8 BERTIE	9	42.77	53	49.99	50.33
9 BLADEN	13	42.02	52	33.74	30.85
10 BRUNSWICK	15	29.43	84	35.37	37.38
11 BUNCOMBE	33	19.05	152	17.90	17.32
12 BURKE	20	25.86	91	23.93	23.23
13 CABARRUS	22	22.93	116	24.81	25.75
14 CALDWELL	19	26.59	86	24.46	24.88
15 CAMDEN	0	0.00	8	27.08	26.87
16 CARTERET	10	19.59	58	23.54	26.04
17 CASWELL	7	31.54	42	37.76	34.42
18 CATAWBA	30	25.56	156	27.34	27.99
19 CHATHAM	9	24.49	60	33.43	33.26
20 CHEROKEE	4	18.88	22	21.43	28.36
21 CHOWAN	3	21.90	19	28.47	32.52
22 CLAY	0	0.00	9	25.17	20.51
23 CLEVELAND	16	18.36	91	21.15	21.48
24 COLUMBUS	23	43.75	116	44.34	45.03
25 CRAVEN	17	20.83	91	22.78	22.21
26 CUMBERLAND	51	20.03	339	26.60	25.25
27 CURRITUCK	5	35.74	22	32.85	36.41
28 DARE	3	13.97	22	23.49	25.26
29 DAVIDSON	19	15.28	158	26.04	27.11
30 DAVIE	8	28.72	42	31.16	34.35
31 DUPLIN	13	31.21	72	34.60	36.30
32 DURHAM	26	15.16	132	15.95	15.19
33 EDGECOMBE	13	21.70	72	24.44	25.44
34 FORSYTH	38	14.26	199	15.25	15.81
35 FRANKLIN	14	39.49	59	34.88	34.56
36 GASTON	45	25.83	205	23.85	24.64
37 GATES	5	51.07	26	54.57	49.65
38 GRAHAM	1	14.25	8	22.43	49.11
39 GRANVILLE	19	48.74	69	36.76	38.77
40 GREENE	4	24.41	26	31.54	28.94
41 GUILFORD	77	22.85	337	20.40	20.86

* SEE SECTION II: RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
MOTOR VEHICLE ACCIDENTS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	17	29.90	73	25.93	21.83
43 HARNETT	27	40.73	109	34.01	34.19
44 HAYWOOD	17	35.21	63	26.21	27.50
45 HENDERSON	18	25.98	84	25.09	24.19
46 HERTFORD	4	16.89	39	32.70	20.26
47 HOKE	5	25.02	24	20.75	17.30
48 HYDE	0	0.00	9	30.77	30.08
49 IREDELL	32	34.93	132	29.74	30.98
50 JACKSON	4	14.78	20	14.87	15.94
51 JOHNSTON	21	26.03	152	38.96	40.16
52 JONES	5	50.77	18	36.50	38.97
53 LEE	12	28.61	63	30.83	31.65
54 LENOIR	15	24.87	83	27.47	30.38
55 LINCOLN	18	37.04	76	32.74	34.84
56 MCDOWELL	16	44.02	49	27.01	29.51
57 MACON	7	29.90	21	18.17	50.25
58 MADISON	4	23.21	22	25.51	20.16
59 MARTIN	10	37.85	34	25.65	23.20
60 MECKLENBURG	75	15.75	378	16.65	17.10
61 MITCHELL	2	13.60	21	28.88	21.64
62 MONTGOMERY	10	41.37	41	34.24	35.81
63 MOORE	12	20.23	92	32.62	34.81
64 NASH	24	32.99	106	29.67	30.40
65 NEW HANOVER	13	11.07	115	20.14	20.23
66 NORTHAMPTON	12	54.27	38	33.91	25.86
67 ONSLOW	25	19.91	147	23.76	22.66
68 ORANGE	14	15.82	85	20.11	19.99
69 PAMLICO	3	27.32	19	34.80	38.82
70 PASQUOTANK	7	22.81	31	20.67	20.82
71 PENDER	11	40.61	40	31.51	29.58
72 PERQUIMANS	4	36.25	15	28.56	32.37
73 PERSON	13	41.37	45	29.34	29.15
74 PITT	25	24.50	102	20.77	19.92
75 POLK	7	47.54	26	35.75	36.71
76 RANDOLPH	44	42.82	150	30.23	31.78
77 RICHMOND	16	34.88	75	32.84	33.67
78 ROBESON	41	37.95	204	38.27	28.10
79 ROCKINGHAM	24	27.75	136	31.75	32.21
80 ROWAN	16	15.02	125	24.00	23.83
81 RUTHERFORD	14	24.21	89	31.14	31.10
82 SAMPSON	22	43.22	95	37.61	38.03
83 SCOTLAND	15	43.22	67	39.40	43.64
84 STANLY	17	33.30	53	21.05	21.09
85 STOKES	6	16.44	45	25.18	30.00
86 SURRY	24	38.64	74	24.13	22.10
87 SWAIN	1	9.50	14	26.30	28.43
88 TRANSYLVANIA	3	11.45	31	24.15	22.88
89 TYRRELL	0	0.00	3	14.59	21.34
90 UNION	26	30.94	106	26.47	27.95
91 VANCE	15	38.19	62	32.05	34.16
92 WAKE	75	19.30	341	18.72	18.79
93 WARREN	7	42.10	32	38.81	45.51
94 WASHINGTON	1	6.83	26	35.73	40.68
95 WATAUGA	6	17.30	30	17.48	13.43
96 WAYNE	24	24.33	115	23.41	23.85
97 WILKES	18	29.30	82	26.92	32.33
98 WILSON	14	21.34	97	29.90	29.57
99 YADKIN	9	29.68	38	25.58	29.82
100 YANCEY	2	12.49	17	21.55	17.05

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

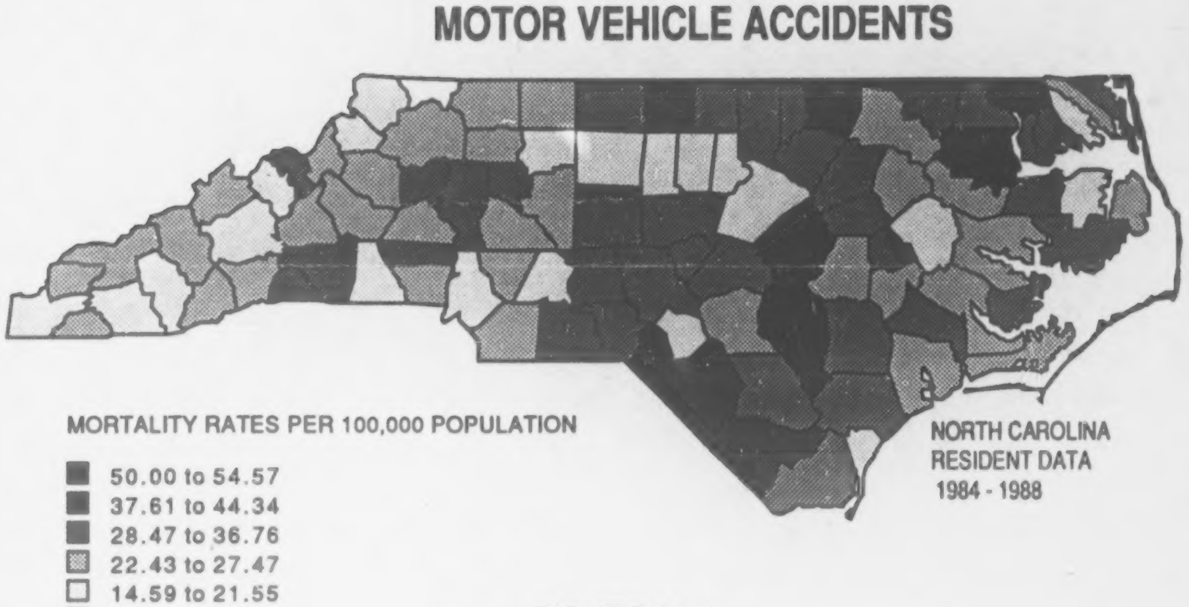

MOTOR VEHICLE ACCIDENTS
MORTALITY RATES PER 100,000 POPULATION
■ 50.00 to 54.57
■ 37.61 to 44.34
■ 28.47 to 36.76
▨ 22.43 to 27.47
□ 14.59 to 21.55
□ 12.28 to 12.28
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 13.A

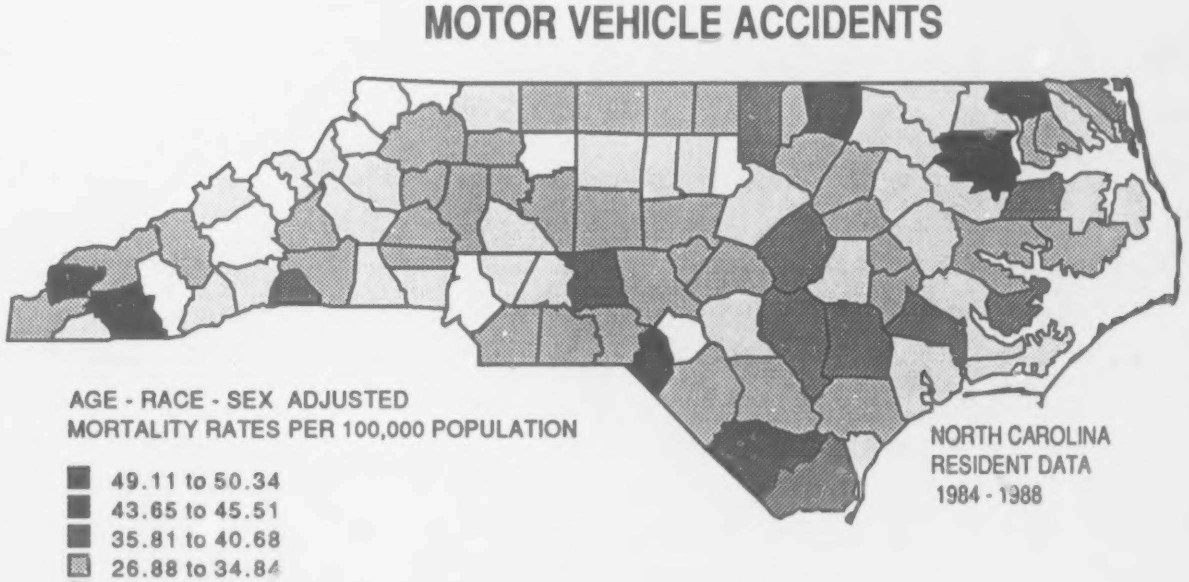

MOTOR VEHICLE ACCIDENTS
AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 49.11 to 50.34
■ 43.65 to 45.51
■ 35.81 to 40.68
▨ 26.88 to 34.84
□ 18.79 to 26.04
□ 10.56 to 17.32
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 13.B

UNINTENDED INJURIES EXCLUDING MOTOR VEHICLES

In 1988, a total of 1,616 North Carolinians died of unintended injuries excluding motor vehicles, resulting in a mortality rate of 24.9 deaths per 100,000 population. The 1988 rate was the highest of the 1984-88 period, with small annual increases each year from 22.7 in 1984. North Carolina's 1987 rate of other unintended injury mortality exceeded that for the nation by 25 percent, after controlling for differential age structures in the two populations (4).

The major categories of unintended non-motor-vehicle mortality in the state and the nation are falls (E880-E888), poisonings (E850-E869), fires and flames (E890-E899), and drownings (E910). Because of the diverse etiologies of each of these types of injury, separate synopses are presented below.

FALLS

Falls are the leading cause of unintended non-motor-vehicle injury deaths in the state (5.3/100,000). The majority of fatal falls occur in the elderly, with those 75 and older accounting for 64 percent of the total fall deaths. White females experienced the highest mortality from falls (6.2/100,000), followed by white males (5.5), nonwhite males (5.2), and nonwhite females (1.9). The rate of mortality from falls for nonwhite females in 1988 was only 31 percent that of white females (6.2 vs. 1.9).

Fall mortality increased nine percent between 1986 and 1987, followed by a 13 percent increase between 1987 and 1988.

POISONINGS

Poisoning resulting from the ingestion or inhalation of drugs, medicinal substances, or biologicals (E850-E858) and other solids, liquids, or gases (E860-E869) killed 212 North Carolinians in 1988 for a rate of 3.3 deaths per 100,000 population. Forty-seven percent of the drug poisoning (E850-E858) fatalities were due to unintentional overdoses of opiates and related narcotics (18 percent) and stimulants such as cocaine (29 percent). Alcohol overdoses accounted for 71 of the 94 poisonings from other solids, liquids, or gases (E860-E869).

The highest rate of mortality for unintentional poisoning by drugs, medicinal substances, and biologicals was in the age group 25-34 (4.0 deaths per 100,000). Those aged 35-44 experienced the next highest mortality from this cause. Nonwhite males were much more likely than other race-sex groups to die of drug overdoses.

Unintended poisoning by other solids, liquids, or gases resulted in the deaths of 94 residents in 1988. The 45-54 age group experienced the highest rate of mortality from this cause. Nonwhite males had disproportionately more deaths from nondrug poisonings.

FIRES AND FLAMES

There were 201 deaths in 1988 from fire and flames, yielding a mortality rate of 3.1 deaths per 100,000 population. Eighty-nine percent of those injuries occurred in private dwellings. Those most susceptible to fire and flame deaths, the very young and very old, encounter the most difficulty evacuating a private dwelling in case of fire. The death rate for those 65 and older was 6.0 and for children less than 5 years old, 7.9 per 100,000. Nonwhite males had the highest race-sex specific rate of death from fire and flames (9.3 per 100,000) followed by nonwhite females (3.6 per 100,000).

A majority of the fire and flame deaths in the state were not a direct result of the flames through burning, but of succumbing to consequences of the flames--smoke and carbon monoxide. At least seventy-three percent of those dying of fire and flames actually died from the inhalation of smoke and fumes from fires in private dwellings.

Most housefire deaths are the result of heating sources (32.8 percent) or smoking (25.7 percent) (12). As with many other types of injuries, alcohol plays a major role in housefire mortality. Based upon 1988 Medical Examiner's data, 41 percent of the fire and flame decedents tested for alcohol were legally intoxicated.

DROWNING

A total of 154 residents of the state died by unintentional drowning in 1988 yielding an annual rate of 2.4 deaths per 100,000 population. Persons aged 15-19 experienced the highest age-specific mortality rate (4.1 per 100,000) followed by infants and children less than five years old (3.5 per 100,000). The sex ratio of drowning decedents is the most unbalanced of the rates presented thus far with the male drowning rate (4.2 per 100,000 males) six times the female rate (0.7 per 100,000 females). Nonwhite males experienced a drowning rate (7.5 per 100,000 nonwhite males) 2.4 times that of their white counterparts (3.1 per 100,000 white males).

Of the drowning victims tested for alcohol in the Medical Examiner's system, 34 percent were found to have been legally intoxicated.

GEOGRAPHIC PATTERNS

There are no discernible geographical patterns of unintended nonmotor vehicle injury deaths by county (Fig. 14.A and Fig. 14.B). However, counties in the two highest rate levels in both figures are rural, and age-adjusted rates for the Cardinal, Eastern, and Western HSA regions (which are primarily rural) are noticeably higher than for the remaining HSA regions.

PREVENTION STRATEGIES

A number of prevention strategies have been recommended by the Governor's Task Force on Injuries. Strategies for specific injury causes are listed below:

INJURY	**INTERVENTION STRATEGIES**
DROWNINGS:	Mandate that all outdoor swimming pools be covered or fenced on four sides and secured with self-locking gates; establish swimming areas that are off limits to motorized watercraft; strictly enforce laws that prohibit operating watercraft while impaired; and teaching swimming and water safety to school-age children and to adults.
POISONINGS:	Ensure that toll-free telephone numbers for poison control centers are available throughout the state; ensure that all households with children are provided with poison control kits that include syrup of ipecac with clear instructions for its use; cabinet safety locks with reminders to store poisons safely; and telephone stickers printed with poison control center telephone numbers.

FALLS: Strengthen building codes to improve the safety of steps, stairs, curbs, railings, and flooring; ensure that institutions providing residential care have staff that are adequately trained in fall prevention; enforce Occupational Safety and Health Administration standards for safety harnesses in construction and other appropriate occupational settings.

FIRE/FLAMES: Install and maintain smoke detectors and fire extinguishers in all dwellings; adhere to product safety standards for space heaters, woodstoves, and non-flammable upholstery; promote the development and sale of self-extinguishing cigarettes. (14)

TABLE-18

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

ALL OTHER ACCIDENTS AND ADVERSE EFFECTS

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1616	24.90	7464	23.58	23.58
REGIONS					
DHR I WESTERN	549	24.69	2488	22.95	23.16
DHR II N. CENTRAL	316	23.17	1514	22.69	22.30
DHR III S. CENTRAL	365	23.81	1721	23.17	23.87
DHR IV EASTERN	386	28.22	1741	25.95	24.76
HSA I WESTERN	290	26.46	1309	24.27	23.80
HSA II PIEDMONT	267	22.22	1281	21.76	21.78
HSA III S. PIEDMONT	259	22.96	1179	21.65	22.38
HSA IV CAPITAL	202	20.83	1006	21.72	22.14
HSA V CARDINAL	275	28.26	1236	25.86	25.80
HSA VI EASTERN	323	28.84	1453	26.36	24.86
COUNTIES					
1 ALAMANCE	34	32.10	117	22.60	22.03
2 ALEXANDER	5	18.14	25	18.57	19.68
3 ALLEGHANY	1	10.18	8	16.37	12.02
4 ANSON	16	60.97	57	43.46	35.49
5 ASHE	5	21.28	24	20.56	12.95
6 AVERY	5	32.77	21	27.85	83.10 *
7 BEAUFORT	11	25.92	64	30.24	28.02
8 BERTIE	8	38.02	38	35.84	22.25
9 BLADEN	11	35.56	47	30.49	29.11
10 BRUNSWICK	15	29.43	55	23.16	23.24
11 BUNCOMBE	57	32.91	247	29.08	25.44
12 BURKE	19	24.57	92	24.19	28.26
13 CABARRUS	20	20.84	96	20.54	21.14
14 CALDWELL	10	13.99	60	17.06	19.04
15 CAMDEN	3	49.52	12	40.62	34.95
16 CARTERET	24	47.02	69	28.01	34.49
17 CASWELL	4	18.02	30	26.97	24.95
18 CATAWBA	23	19.59	122	21.38	23.39
19 CHATHAM	12	32.66	57	31.76	28.66
20 CHEROKEE	9	42.48	22	21.43	20.22
21 CHOWAN	6	43.81	19	28.47	26.00
22 CLAY	0	0.00	4	11.18	6.84
23 CLEVELAND	27	30.99	112	26.03	26.08
24 COLUMBUS	16	30.44	82	31.34	29.78
25 CRAVEN	18	22.06	67	16.77	18.62
26 CUMBERLAND	64	25.13	293	22.99	28.63
27 CURRITUCK	1	7.14	9	13.43	12.05
28 DARE	4	18.63	31	33.10	31.23
29 DAVIDSON	25	20.11	123	20.27	21.58
30 DAVIE	8	28.72	32	23.74	23.40
31 DUPLIN	22	52.81	66	31.72	26.92
32 DURHAM	37	21.57	204	24.66	23.47
33 EDGECOMBE	21	35.06	89	30.21	25.93
34 FORSYTH	64	24.02	304	23.30	22.73
35 FRANKLIN	14	39.49	50	29.56	24.80
36 GASTON	40	22.96	194	22.57	23.77
37 GATES	2	20.42	14	29.38	24.58
38 GRAHAM	3	42.75	16	44.86	50.05
39 GRANVILLE	7	17.96	49	26.10	23.98
40 GREENE	2	12.20	27	32.75	32.04
41 GUILFORD	78	23.15	358	21.67	21.16

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
ALL OTHER ACCIDENTS AND ADVERSE EFFECTS CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	13	22.87	81	28.78	21.22
43 HARNETT	28	42.24	86	26.83	28.16
44 HAYWOOD	16	37.29	72	29.95	19.58
45 HENDERSON	21	30.32	78	23.30	22.13
46 HERTFORD	9	38.02	51	42.76	33.59
47 HOKE	1	4.17	21	18.15	21.17
48 HYDE	2	35.22	10	34.19	27.22
49 IREDELL	21	22.92	119	26.81	27.31
50 JACKSON	7	25.87	30	22.31	22.55
51 JOHNSTON	28	34.71	112	28.70	29.91
52 JONES	5	50.77	14	28.39	24.87
53 LEE	7	16.69	50	24.47	24.95
54 LENOIR	15	24.67	85	28.13	24.60
55 LINCOLN	15	30.87	58	24.99	27.48
56 MCDOWELL	10	27.51	42	23.15	20.66
57 MACON	12	51.27	33	28.56	17.14
58 MADISON	8	46.42	34	39.42	26.96
59 MARTIN	8	30.28	41	30.93	28.73
60 MECKLENBURG	105	22.05	430	18.94	19.57
61 MITCHELL	3	20.40	18	24.76	15.54
62 MONTGOMERY	4	16.54	33	27.55	25.03
63 MOORE	12	20.23	65	23.05	21.54
64 NASH	26	35.74	113	31.63	28.93
65 NEW HANOVER	26	22.14	117	20.49	21.49
66 NORTHAMPTON	8	36.18	28	24.99	15.65
67 ONSLOW	22	17.52	119	19.23	23.20
68 ORANGE	10	11.30	61	14.43	16.66
69 PAMLICO	7	63.75	27	49.46	45.70
70 PASQUOTANK	6	19.55	32	21.33	20.70
71 PENDER	6	22.15	34	26.79	24.59
72 PERQUIMANS	4	36.25	15	28.56	27.28
73 PERSON	6	19.09	32	20.86	19.27
74 PITT	29	28.42	123	25.05	26.33
75 POLK	6	40.75	21	28.88	17.87
76 RANDOLPH	19	18.49	87	17.53	17.00
77 RICHMOND	15	32.70	58	25.39	24.95
78 ROBESON	32	29.62	176	33.02	28.12
79 ROCKINGHAM	17	19.65	93	21.71	21.39
80 ROWAN	23	21.59	150	28.80	26.85
81 RUTHERFORD	16	27.67	68	23.79	22.66
82 SAMPSON	16	31.43	77	30.48	27.07
83 SCOTLAND	13	37.46	35	20.58	20.44
84 STANLY	14	27.42	59	23.43	23.03
85 STOKES	2	5.48	33	18.46	21.82
86 SURRY	9	14.49	60	19.56	18.08
87 SWAIN	2	19.01	26	48.85	46.53
88 TRANSYLVANIA	8	30.54	17	13.24	11.32
89 TYRRELL	1	24.42	6	29.18	27.09
90 UNION	21	24.39	73	18.23	21.33
91 VANCE	18	45.83	73	37.74	30.71
92 WAKE	59	15.18	289	15.87	19.11
93 WARREN	4	24.06	29	35.17	32.07
94 WASHINGTON	4	27.32	20	27.48	27.69
95 WATAUGA	8	23.07	32	18.64	15.29
96 WAYNE	24	24.33	107	21.78	20.83
97 WILKES	6	9.76	61	20.02	19.05
98 WILSON	18	27.44	76	23.43	22.11
99 YADKIN	7	23.08	44	29.62	28.80
100 YANCEY	1	6.24	24	30.43	44.00 *

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

ALL OTHER ACCIDENTS AND ADVERSE EFFECTS

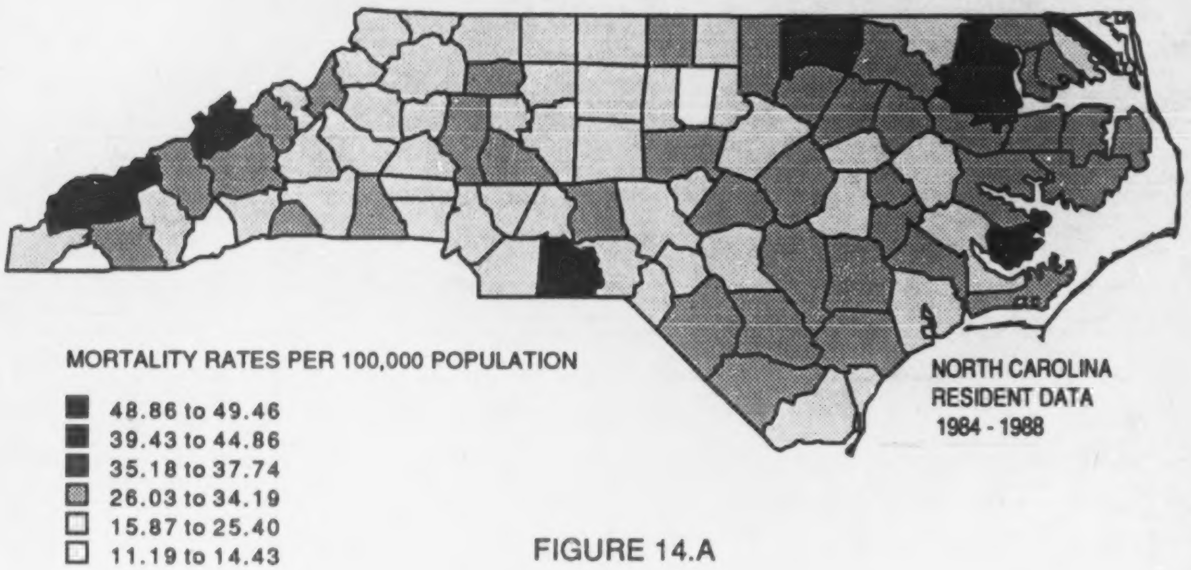

MORTALITY RATES PER 100,000 POPULATION
■ 48.86 to 49.46
■ 39.43 to 44.86
■ 35.18 to 37.74
▨ 26.03 to 34.19
☐ 15.87 to 25.40
☐ 11.19 to 14.43
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 14.A

ALL OTHER ACCIDENTS AND ADVERSE EFFECTS

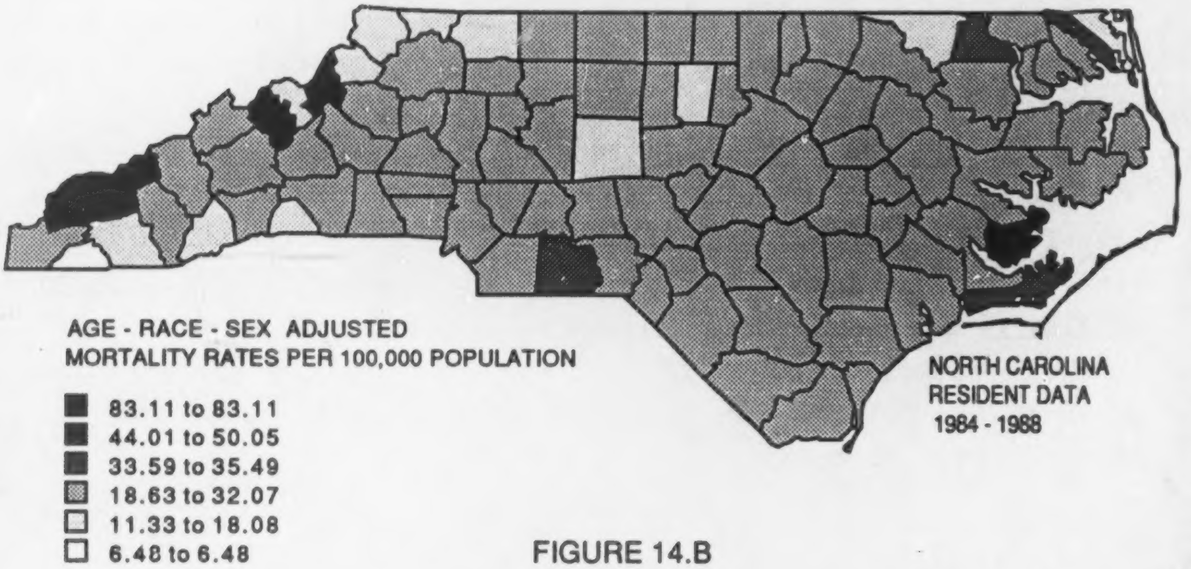

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 83.11 to 83.11
■ 44.01 to 50.05
■ 33.59 to 35.49
▨ 18.63 to 32.07
☐ 11.33 to 18.08
☐ 6.48 to 6.48
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 14.B

SUICIDE

It has been estimated that suicides are underreported by 25 to 50 percent nationwide. Some reasons for this relatively low reporting may be that coroners and medical examiners use different definitions of suicide, require different evidence, and may yield to family or community pressures to avoid the stigma of suicide. (11) In North Carolina, however, all apparent suicides must be investigated and certified by the State Medical Examiner System, which has come to be regarded as one of the most accurate and complete medical examiner systems in the country. Thus the reporting of suicide in North Carolina may be better than the national average.

Since 1972, North Carolina's suicide rate has remained fairly stable. Between 1984 and 1988, an average of 790 suicides per year resulted in a rate of 12.5 deaths per 100,000 population. The 1987 age-adjusted suicide rate for North Carolina was slightly lower than the corresponding United States rate (11.4 vs 11.7) (4).

North Carolina's age-adjusted suicide rates during 1987 revealed much higher rates among males and whites than among females and nonwhites. Male rates were four to five times the female rates, and white rates were two to three times the nonwhite rates. Between 1979-83 and 1984-88, the state's total age-adjusted suicide rate declined three percent due to decreases among females of both races.

Suicide rates are associated with age and they peak after age 64. The 1988 rates by age group were as follows: 0.0 for ages 0-4, 0.5 for ages 5-14, 8.6 for ages 15-24, 16.8 for ages 25-34, 15.4 for ages 35-44, 14.0 for ages 45-54, 16.0 for ages 55-64, and 21.7 for ages 65 and older. Age-race-sex specific suicide rates were highest for white males ages 65 and over (54.8), followed by white males ages 55-64 (34.1). In short, white males had the highest suicide rates across all the age categories.

A recent study of mortality among the elderly (15) revealed that, in both the state and the nation, the suicide rate is higher for persons in each of the age groups 65-74, 75-84, and 85 and over than in any age group below 65. White males were found to contribute disproportionately to those high rates. Reporting changes in elderly death rates between 1968-72 and 1983-87, the study also revealed substantial increases in the suicide rates of white females at ages 65-74 and 75-84.

Handguns were the most frequent means of suicide in 1988. Approximately 40 percent of the suicides were by handguns, followed by shotguns (20%), and rifles (11%). Firearm deaths together account for approximately 73 percent of all suicides. (6)

Suicide means differed substantially by sex. Females were more likely to use poisons (other than carbon monoxide) compared to males (31% vs 5%) while males were more likely to use a shotgun compared to females (24% vs 5%). Although males were more likely to use firearms compared to females (79% vs 49%), the sexes did not differ in their use of handguns. (6)

RISK FACTORS

Alcohol impairment (defined as .10% blood alcohol level in North Carolina DWI laws) was observed in 24 percent of suicide victims in 1988. The percentages of impaired victims by race-sex groups were 28 percent for white males, 13 percent for white females, 21 percent for nonwhite males, and 20 percent for nonwhite females. For victims over the age of 14, persons ages 35-44 had the highest percentage of impaired victims (34%) while persons ages 65 and over had the lowest percentage of impaired victims (7%).

Research studies conducted outside of North Carolina have shown that suicide rates vary by marital status. Nonmarried persons at all ages have higher rates of suicide than married persons. Persons ages 65 and over who have recently lost their spouses have particularly high rates of suicide. (16,17)

Several case-control studies have shown that suicide victims had fewer visits from relatives, had fewer ties with their domestic and neighborhood groups, and lived alone more often compared with selected controls (18). Other risk factors identified in the literature include previous suicide attempts, chronic pain, terminal illness, recent retirement, psychiatric disorders, and decline in social status (11, 16, 17, 18). Although depression has been identified as being highly prevalent among suicide victims, it may be more important for suicide prevention purposes to identify the etiology of the depression.

Research studies of people who unsuccessfully attempt suicide (parasuicide victims) indicate that they are quite different from suicidal victims both demographically and in their chosen methods. Although the male suicide rate is much higher than the female rate, females attempt suicide approximately three times more often than males (11). Parasuicide victims also are younger than suicide victims (16, 17). Drug ingestion is the most common method among parasuicide victims while firearm injuries are relatively uncommon because of the high case-facility rate from such injuries (1).

GEOGRAPHIC PATTERNS

The geographic patterns of unadjusted and age-race-sex-adjusted suicide rates are shown in Figures 15.A and 15.B respectively. Rates for counties with fewer than 20 suicides during the time period 1984-88 should be interpreted with caution. When counties with high suicide rates were tested for geographic clustering (see Section II), no statistically significant spatial clusters were found.

PREVENTION STRATEGIES

The prevention of suicide has mainly been within the purview of the mental health system. Interventions include establishing suicide prevention centers, identifying parasuicide victims and ensuring that they receive appropriate treatment, and implementing school-based programs that are designed to educate administrators, faculty, students, and parents about the warning signs of suicide and available resources for help. Although these interventions may perform a variety of important roles in society, they still must be evaluated for effectiveness in suicide and parasuicide prevention. (10)

Interventions that the literature indicates may be effective usually reduce the availability of the means of suicide. In North Carolina, these interventions would mostly involve gun control. Other interventions addressing the means of suicide include tighter prescription requirements for highly toxic psychotropic drugs, and devices that shut off a car's engine if dangerous levels of carbon monoxide build up inside the car. There is speculation that these interventions have the potential to be effective because if common and culturally acceptable means of suicide are eliminated, potential suicide victims may simply not choose an alternative method. (11)

TABLE-19

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

SUICIDE

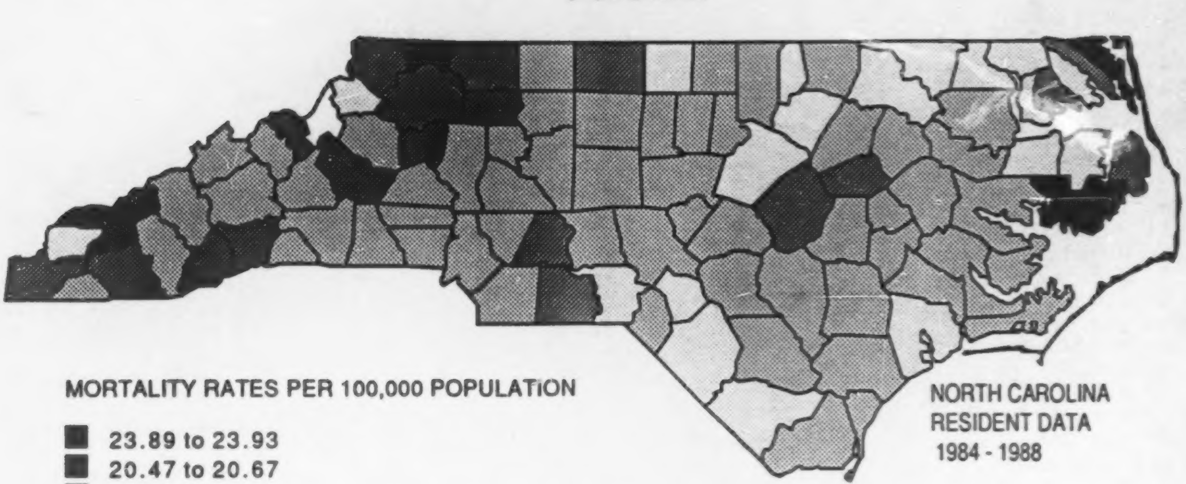
GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	784	12.08	3952	12.49	12.49
REGIONS					
DHR I WESTERN	319	14.34	1455	13.42	12.57
DHR II N. CENTRAL	162	11.88	880	13.19	12.92
DHR III S. CENTRAL	166	10.82	828	11.14	12.02
DHR IV EASTERN	137	10.01	789	11.76	12.80
HSA I WESTERN	177	16.15	791	14.67	13.59
HSA II PIEDMONT	147	12.23	786	13.35	12.86
HSA III S. PIEDMONT	142	12.58	664	12.19	11.91
HSA IV CAPITAL	103	10.62	515	11.12	11.60
HSA V CARDINAL	103	10.58	543	11.36	12.54
HSA VI EASTERN	112	10.00	653	11.84	13.15
COUNTIES					
1 ALAMANCE	12	11.33	75	14.49	13.93
2 ALEXANDER	6	21.76	24	17.83	21.70
3 ALLEGHANY	0	0.00	10	20.46	15.65
4 ANSON	8	30.48	24	18.30	25.75
5 ASHE	2	8.51	19	16.27	12.32
6 AVERY	1	6.55	3	3.97	3.25
7 BEAUFORT	9	21.21	30	14.17	15.10
8 BERTIE	0	0.00	12	11.32	11.24
9 BLADEN	6	19.39	18	11.68	12.88
10 BRUNSWICK	4	7.84	26	10.94	10.94
11 BUNCOMBE	22	12.70	129	15.19	14.25
12 BURKE	19	24.57	63	16.57	17.40
13 CABARRUS	10	10.42	53	11.33	11.04
14 CALDWELL	12	16.79	50	14.22	13.73
15 CAMDEN	1	16.50	5	16.92	18.14
16 CARTERET	8	15.67	31	12.58	10.75
17 CASWELL	1	4.50	9	8.09	8.98
18 CATAWBA	14	11.93	66	11.56	10.45
19 CHATHAM	8	21.77	25	13.93	13.72
20 CHEROKEE	3	14.16	18	17.53	12.00
21 CHOWAN	1	7.30	6	8.99	11.14
22 CLAY	1	13.74	5	13.98	9.89
23 CLEVELAND	7	8.03	48	11.15	11.08
24 COLUMBUS	1	1.90	25	9.55	10.39
25 CRAVEN	3	3.67	46	11.51	13.05
26 CUMBERLAND	20	7.85	133	10.43	12.06
27 CURRITUCK	3	21.44	16	23.89	21.76
28 DARE	1	4.65	17	18.15	13.83
29 DAVIDSON	16	12.87	76	12.53	11.49
30 DAVIE	2	7.18	19	14.09	12.79
31 DUPLIN	4	9.60	24	11.53	12.64
32 DURHAM	18	10.49	90	10.88	12.58
33 EDGECOMBE	4	6.67	31	10.52	14.04
34 FORSYTH	23	8.63	160	12.26	12.18
35 FRANKLIN	2	5.64	15	8.86	10.20
36 GASTON	24	13.77	94	10.93	10.10
37 GATES	1	10.21	4	8.39	11.22
38 GRAHAM	0	0.00	3	8.41	6.89
39 GRANVILLE	3	7.69	29	15.45	13.91
40 GREENE	1	6.10	10	12.13	14.83
41 GUILFORD	48	14.25	211	12.77	12.95

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
SUICIDE CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	6	10.55	27	9.59	11.47
43 HARNETT	9	13.57	44	13.73	14.51
44 HAYWOOD	12	24.86	36	14.97	11.19
45 HENDERSON	15	21.65	64	19.12	14.65
46 HERTFORD	1	4.22	10	8.38	7.92
47 HOKE	2	8.34	9	7.78	8.08
48 HYDE	3	52.84	7	23.93	23.66
49 IREDELL	15	16.37	62	13.96	13.73
50 JACKSON	4	14.78	20	14.87	15.16
51 JOHNSTON	18	22.31	65	16.66	15.98
52 JONES	1	10.15	6	12.16	10.08
53 LEE	3	7.15	26	12.72	12.96
54 LENOIR	7	11.60	40	13.23	15.88
55 LINCOLN	6	12.34	33	14.21	14.67
56 MCDOWELL	5	13.75	22	12.12	15.47
57 MACON	2	8.54	19	16.44	12.03
58 MADISON	2	11.60	11	12.75	10.15
59 MARTIN	4	15.14	17	12.82	15.47
60 MECKLENBURG	55	11.55	254	11.19	11.58
61 MITCHELL	4	27.21	14	19.25	13.12
62 MONTGOMERY	1	4.13	14	11.69	11.36
63 MOORE	8	13.48	43	15.24	13.33
64 NASH	3	4.12	38	10.63	12.14
65 NEW HANOVER	17	14.47	67	11.73	11.69
66 NORTHAMPTON	1	4.52	9	8.03	10.63
67 ONSLOW	13	10.35	53	8.56	10.49
68 ORANGE	11	12.43	49	11.59	12.20
69 PAMLICO	2	18.21	8	14.65	15.06
70 PASQUOTANK	4	13.03	11	7.33	7.52
71 PENDER	3	11.07	18	14.18	15.94
72 PERQUIMANS	4	36.25	10	19.04	19.99
73 PERSON	1	3.18	23	14.99	15.74
74 PITT	9	8.82	58	11.81	14.77
75 POLK	2	13.58	10	13.75	14.51
76 RANDOLPH	15	14.59	62	12.49	11.10
77 RICHMOND	5	10.90	16	7.00	7.42
78 ROBESON	10	9.25	51	9.56	11.63
79 ROCKINGHAM	12	13.87	74	17.27	17.01
80 ROWAN	16	15.02	79	15.17	13.96
81 RUTHERFORD	10	17.29	41	14.34	12.97
82 SAMPSON	9	17.68	35	13.85	15.17
83 SCOTLAND	0	0.00	20	11.76	13.95
84 STANLY	8	15.67	46	18.27	15.83
85 STOKES	6	16.44	22	12.31	11.83
86 SURRY	9	14.49	54	17.60	15.41
87 SWAIN	4	38.03	11	20.67	18.96
88 TRANSYLVANIA	6	22.91	23	17.92	14.08
89 TYRRELL	0	0.00	2	9.72	11.39
90 UNION	8	9.52	43	10.74	11.01
91 VANCE	6	15.27	18	9.30	11.63
92 WAKE	30	7.72	166	9.11	8.71
93 WARREN	3	18.04	9	10.91	17.56
94 WASHINGTON	2	13.66	6	8.24	9.46
95 WATAUGA	6	17.30	17	9.90	7.74
96 WAYNE	9	9.12	61	12.41	13.90
97 WILKES	17	27.67	56	18.38	18.65
98 WILSON	7	10.67	58	17.88	20.33
99 YADKIN	3	9.89	24	16.16	14.48
100 YANCEY	1	6.24	9	11.41	20.00

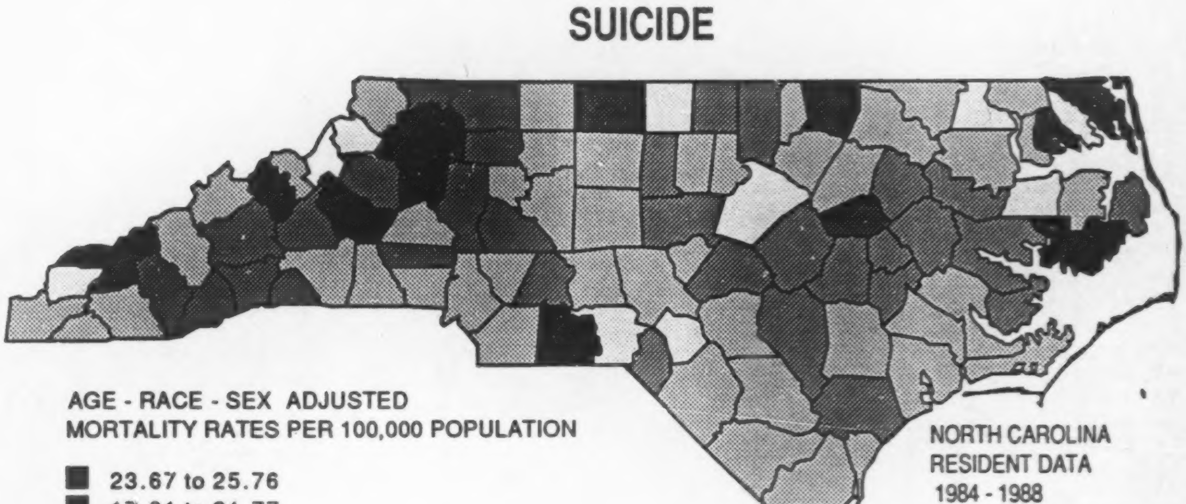
* SEE SECTION II: RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.


SUICIDE
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

MORTALITY RATES PER 100,000 POPULATION

■ 23.89 to 23.93
■ 20.47 to 20.67
■ 16.16 to 19.26
▨ 10.44 to 15.45
□ 7.01 to 9.90
□ 3.98 to 3.98

FIGURE 15.A


SUICIDE
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

■ 23.67 to 25.76
■ 17.01 to 21.77
■ 13.73 to 15.98
▨ 9.90 to 13.34
□ 6.89 to 9.46
□ 3.25 to 3.25

FIGURE 15.B

HOMICIDE

In the past, homicide was considered the concern of the criminal justice system which focused on the perpetrators and the definition of guilt. During the 1970's, however, public health professionals began to realize that homicide was not only a law enforcement problem, but a public health problem as well. In the 1980's, public health professionals complemented the criminal justice system's approach to homicide by focusing on the victims and on the risk factors associated with homicide.

Following a precipitous decline in the 1970's, North Carolina's homicide rate has remained fairly stable. Between 1984 and 1988, there was an average of 567 deaths per year for an approximate rate of 9.0 deaths per 100,000 population. The 1987 age-adjusted homicide rate for North Carolina was higher than the corresponding United States rate by a modest 3.5 percent (4).

In North Carolina, 1987 age-adjusted homicide rates were over three times as high for nonwhites as for whites. Rates for males were approximately three times the rates for females and nonwhite males were the race-sex group at greatest risk. Age-specific homicide rates reveal that persons ages 25-34 are the age group at greatest risk, followed by the 35-44 and 15-24 age groups. Nonwhite males ages 25-34 are the demographic group at greatest risk for homicide with a 1988 death rates of 64.1. They are followed by nonwhite males ages 35-44 with a rate of 54.7 and nonwhite males ages 45-54 with a rate of 37.4.

Handguns were the most frequent means of death in homicides, followed by sharp instruments and shotguns. Firearm deaths together accounted for approximately 64 percent of all homicides (6). Research studies outside of North Carolina have revealed that although many more people are assaulted with sharp instruments than with firearms, the ratio of deaths to injuries is approximately five times as great for shootings. This suggests that the primary basis for the high death rate from firearms may be the lethality of the weapons rather than the characteristics of the people who kill or are killed (1).

Approximately one-third of all homicides in North Carolina occur at or around the hour of midnight (10:00 PM - 1:59 AM). Homicides are more likely to occur on weekends and at private homes. (6)

RISK FACTORS

Alcohol involvement was a significant factor in 1988 homicides as 37 percent of the homicide victims were intoxicated (defined as .10 percent blood alcohol level). The percentage of intoxicated victims varied by race-sex group; 46 percent of nonwhite males, 39 percent of white males, 24 percent of nonwhite females, and 13 percent of white females were intoxicated. The age group with the largest percentage of intoxicated victims was persons ages 35-44 (49%), followed by persons ages 25-34 (42%) and 45-54 (39%). Homicides that involved sharp instruments had the largest percentage of intoxicated victims (48%) followed by shotgun homicides (41%) and blunt instrument homicides (38%).

An important descriptor of homicide is the victim-perpetrator relationship. In 1988, approximately 74 percent of the state's homicide victims knew their perpetrator (19). Other research studies have shown that a greater proportion of female homicide victims were killed by family members or intimate acquaintances compared with male homicide victims. In fact, women were most likely to be killed by their husbands or ex-husbands. In contrast, men were most likely to be killed by acquaintances. Homicide victims and perpetrators are also usually of the same race. (19,20)

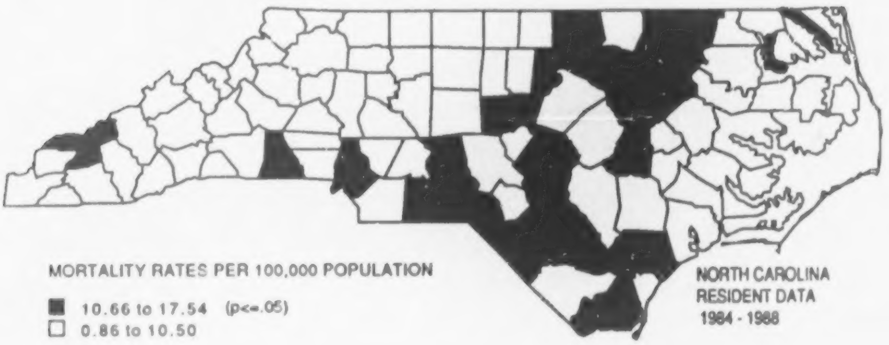
Another important descriptor is the circumstance surrounding the homicide. Over one-third of the state's 1988 homicides were precipitated by an argument (19). This proportion is probably understated because most of the other known circumstances are listed as domestic abuse. Other research studies have shown that the circumstance of the homicide varies with age and victim-perpetrator relationship. A greater proportion of homicides involving persons ages 60 and above are precipitated by a felony compared with the younger age groups (1). Furthermore, when the perpetrator is a stranger to the victim, the homicide is almost exclusively precipitated by a felony (20).

One significant risk factor associated with homicide that has not been studied in North Carolina is socioeconomic status. Several studies have shown that persons of low socioeconomic status are at an increased risk of homicide. In fact, when socioeconomic status is taken into consideration, racial differences in homicide rates become quite small (11). Socioeconomic status is also an important geographic variable because homicide rates are more than twice as high in low-income areas as in high-income areas (1).

GEOGRAPHIC PATTERNS

The geographic patterns of homicide rates and homicide age-race-sex-adjusted rates are shown in Figures 16.A and 16.B. Rates for the 45 counties with fewer than 20 homicides during the 1984-1988 period are likely to be unstable. When counties with high homicide rates were tested for geographic clustering, a statistically significant spatial cluster was found (see map below). However, statistical significance disappeared after adjustment for age, race, and sex.

HOMICIDE


MORTALITY RATES PER 100,000 POPULATION
■ 10.66 to 17.54 (p<=.05)
☐ 0.86 to 10.50
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

PREVENTION STRATEGIES

The prevention of homicide has usually been within the purview of the criminal justice system. Interventions include the enforcement of laws against homicide, imprisonment, mandatory sentences, and increased police patrols. Public health professionals, however, are becoming more active in homicide prevention. A series of interventions frequently mentioned in the literature address gun control. These interventions include restrictive licensing of firearms (restricting the possession of firearms to those with a clearly demonstrated need), permissive licensing of firearms with waiting periods and background checks, selective prohibition on the carrying of firearms, and restriction of the manufacture, sale, possession, and carrying of handguns. More research is needed, however, to evaluate the effectiveness of these gun control measures (1).

Other interventions regarding homicide prevention are mostly in the area of education and rehabilitation. These interventions include drug and alcohol prevention and rehabilitation programs, school-based curricula dealing with conflict resolution and violence prevention, and community-based programs for the prevention of domestic abuse (21). Whatever the intervention, health care providers, criminal justice agencies, schools, and social service agencies should communicate and cooperate to a greater extent to reduce North Carolina's homicide rate.

TABLE-20

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

HOMICIDE

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	578	8.90	2834	8.95	8.95
REGIONS					
DHR I WESTERN	162	7.28	889	8.20	10.21
DHR II N. CENTRAL	115	8.43	570	8.54	8.73
DHR III S. CENTRAL	158	10.30	777	10.46	9.30
DHR IV EASTERN	143	10.45	598	8.91	8.06
HSA I WESTERN	64	5.84	366	6.78	9.42
HSA II PIEDMONT	101	8.40	483	8.20	8.81
HSA III S. PIEDMONT	98	8.68	523	9.60	10.35
HSA IV CAPITAL	75	7.73	426	9.19	8.37
HSA V CARDINAL	126	12.94	558	11.67	10.49
HSA VI EASTERN	114	10.18	478	8.67	7.69
COUNTIES					
1 ALAMANCE	10	9.44	39	7.53	8.26
2 ALEXANDER	0	0.00	3	2.22	1.75
3 ALLEGHANY	0	0.00	1	2.04	1.69
4 ANSON	10	38.11	23	17.53	17.19
5 ASHE	0	0.00	1	0.85	0.63
6 AVERY	0	0.00	1	1.32	14.80
7 BEAUFORT	5	11.78	21	9.92	10.26
8 BERTIE	1	4.75	8	7.54	7.63
9 BLADEN	5	16.16	18	11.68	8.78
10 BRUNSWICK	10	19.62	27	11.36	11.87
11 BUNCOMBE	9	5.19	61	7.18	9.71
12 BURKE	6	7.76	30	7.89	9.88
13 CABARRUS	9	9.38	33	7.06	10.28
14 CALDWELL	5	6.99	26	7.39	9.07
15 CAMDEN	3	49.52	4	13.54	13.07
16 CARTERET	3	5.87	10	4.05	5.03
17 CASWELL	1	4.50	6	5.39	3.99
18 CATAWBA	7	5.96	37	6.48	9.56
19 CHATHAM	2	5.44	25	13.93	12.84
20 CHEROKEE	0	0.00	5	4.87	4.57
21 CHOWAN	3	21.90	8	11.98	13.20
22 CLAY	0	0.00	1	2.79	2.41
23 CLEVELAND	13	14.92	47	10.92	12.08
24 COLUMBUS	7	13.31	26	9.93	8.59
25 CRAVEN	7	8.57	34	8.51	7.91
26 CUMBERLAND	30	11.78	151	11.84	10.91
27 CURRITUCK	2	14.29	5	7.46	10.19
28 DARE	0	0.00	3	3.20	4.38
29 DAVIDSON	13	10.45	47	7.74	10.70
30 DAVIE	5	17.95	7	5.19	6.59
31 DUPLIN	4	9.60	13	6.24	6.12
32 DURHAM	21	12.24	104	12.57	9.82
33 EDGECOMBE	5	8.34	37	12.55	9.30
34 FORSYTH	22	8.25	137	10.50	10.07
35 FRANKLIN	3	8.46	26	15.37	13.91
36 GASTON	21	12.05	78	9.07	11.70
37 GATES	0	0.00	5	10.49	7.01
38 GRAHAM	0	0.00	3	8.41	7.11
39 GRANVILLE	3	7.69	24	12.78	11.55
40 GREENE	4	24.41	6	7.27	6.21
41 GUILFORD	29	8.60	146	8.84	8.32

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
HOMICIDE CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	8	14.07	30	10.65	7.87
43 HARNETT	7	10.56	35	10.92	11.42
44 HAYWOOD	1	2.07	11	4.57	7.78
45 HENDERSON	3	4.33	22	6.57	10.97
46 HERTFORD	1	4.22	12	10.06	6.72
47 HOKE	1	4.17	8	6.91	6.26
48 HYDE	0	0.00	2	6.83	8.45
49 IREDELL	7	7.64	43	9.68	10.97
50 JACKSON	0	0.00	6	4.46	6.26
51 JOHNSTON	8	9.91	40	10.25	11.82
52 JONES	2	20.31	3	6.08	8.47
53 LEE	2	4.76	17	8.32	8.82
54 LENOIR	5	8.29	29	9.59	8.08
55 LINCOLN	2	4.11	14	6.03	7.68
56 MCDOWELL	3	8.25	17	9.37	10.27
57 MACON	1	4.27	4	3.46	20.89
58 MADISON	0	0.00	8	9.27	7.50
59 MARTIN	3	11.35	11	8.29	7.05
60 MECKLENBURG	44	9.24	284	12.51	11.07
61 MITCHELL	0	0.00	4	5.50	3.91
62 MONTGOMERY	3	12.41	13	10.85	11.09
63 MOORE	5	8.42	21	7.44	8.39
64 NASH	15	20.62	39	10.91	10.28
65 NEW HANOVER	7	5.96	47	8.23	8.37
66 NORTHAMPTON	4	18.09	16	14.28	8.25
67 ONSLOW	5	3.98	32	5.17	5.64
68 ORANGE	8	9.04	32	7.57	7.59
69 PAMLICO	1	9.10	2	3.66	2.81
70 PASQUOTANK	4	13.03	11	7.33	6.05
71 PENDER	5	18.46	20	15.75	13.33
72 PERQUIMANS	0	0.00	1	1.90	1.71
73 PERSON	2	6.36	12	7.82	7.56
74 PITT	8	7.84	26	5.29	5.11
75 POLK	2	13.58	5	6.87	14.88
76 RANDOLPH	8	7.78	41	8.26	13.46
77 RICHMOND	8	17.44	30	13.13	13.26
78 ROBESON	20	18.51	91	17.07	12.93
79 ROCKINGHAM	10	11.56	31	7.23	7.73
80 ROWAN	3	2.81	35	6.72	7.75
81 RUTHERFORD	4	6.91	26	9.09	10.18
82 SAMPSON	3	5.89	21	8.31	7.78
83 SCOTLAND	5	14.40	27	15.87	12.63
84 STANLY	4	7.83	12	4.76	5.62
85 STOKES	0	0.00	11	6.15	7.55
86 SURRY	3	4.83	14	4.56	9.22
87 SWAIN	2	19.01	7	13.15	13.81
88 TRANSYLVANIA	1	3.81	6	4.67	4.06
89 TYRRELL	1	24.42	2	9.72	12.19
90 UNION	8	9.52	24	5.99	8.05
91 VANCE	5	12.73	23	11.89	9.39
92 WAKE	20	5.14	121	6.64	6.55
93 WARREN	1	6.01	2	2.42	0.80
94 WASHINGTON	0	0.00	5	6.87	4.75
95 WATAUGA	2	5.76	3	1.74	1.40
96 WAYNE	9	9.12	59	12.01	10.87
97 WILKES	5	8.13	28	9.15	11.13
98 WILSON	11	16.77	44	13.56	11.94
99 YADKIN	0	0.00	4	2.69	2.10
100 YANCEY	0	0.00	3	3.80	3.22

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

HOMICIDE

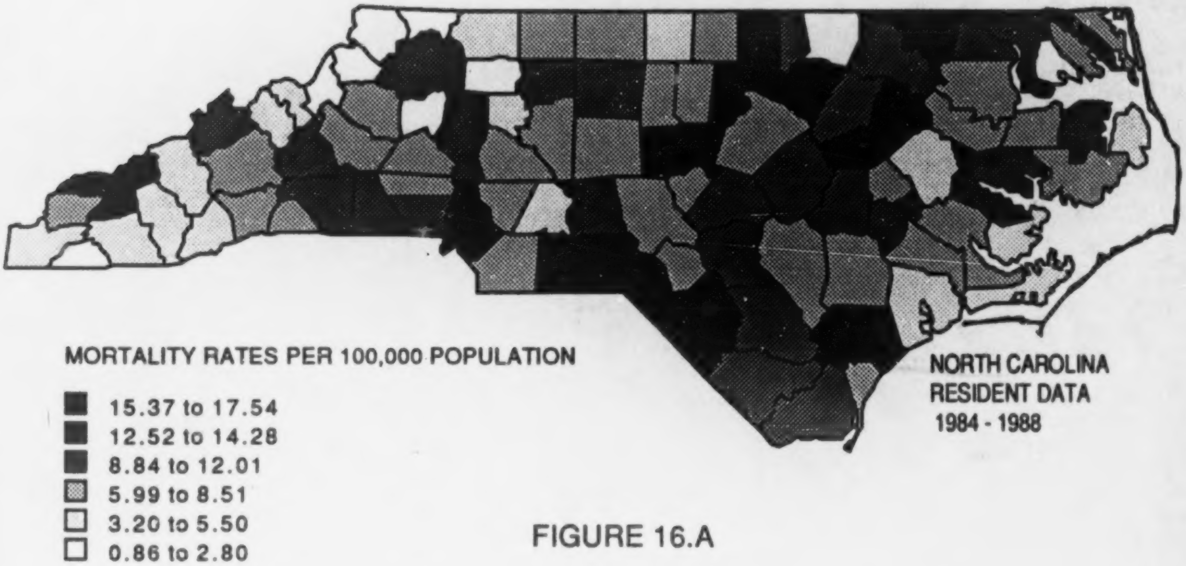

MORTALITY RATES PER 100,000 POPULATION
■ 15.37 to 17.54
■ 12.52 to 14.28
■ 8.84 to 12.01
▨ 5.99 to 8.51
☐ 3.20 to 5.50
☐ 0.86 to 2.80
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 16.A

HOMICIDE

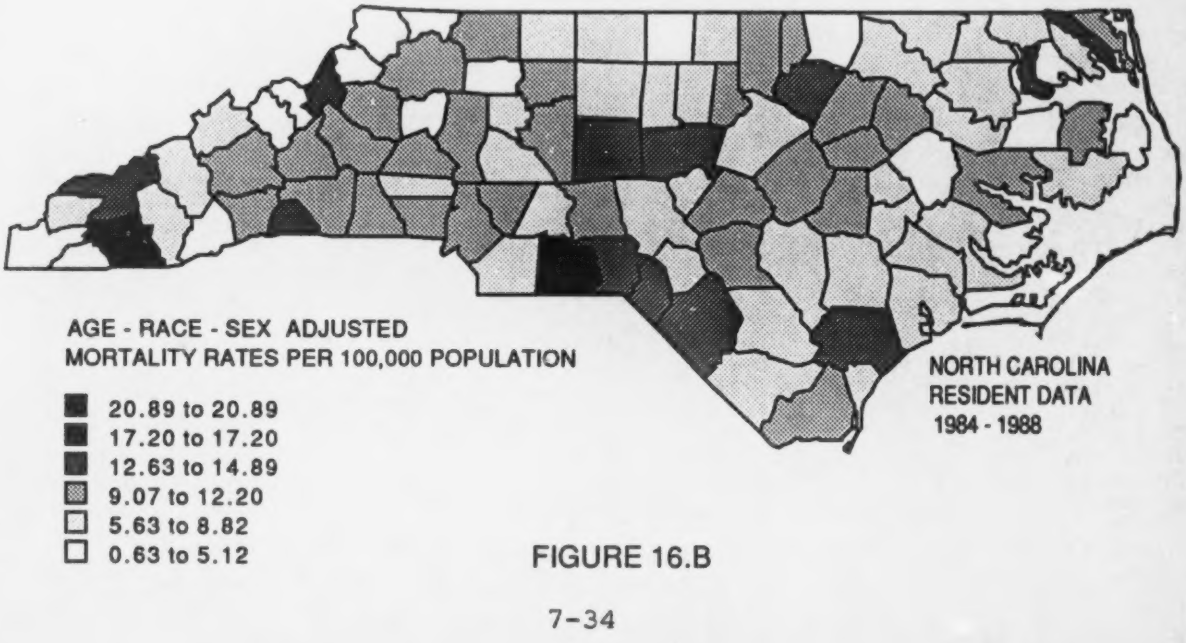

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 20.89 to 20.89
■ 17.20 to 17.20
■ 12.63 to 14.89
▨ 9.07 to 12.20
☐ 5.63 to 8.82
☐ 0.63 to 5.12
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 16.B

REFERENCES

1. Baker, S., O'Neill, B., Karpf, R. The Injury Fact Book. Lexington, Massachusetts: Lexington, 1984.

2. Institute of Medicine. Injury In America: A Continuing Public Health Problem. Washington, D.C.: National Academy Press, 1985.

3. Rice, D.P., MacKenzie, E.J., and Associates. Cost of Injury in the United States: A Report to Congress. San Francisco, CA: Institute for Health & Aging, University of California and Injury Prevention Center, The Johns Hopkins University, 1989.

4. National Center for Health Statistics. Vital Statistics of the United States, 1987, Volume II - Mortality, Part A. Hyattsville, Md.: National Center for Health Statistics, 1989.

5. North Carolina Department of Transportation, Division of Motor Vehicles, Traffic Data Branch, Collision Reports Section. North Carolina Traffic Accident Facts. Raleigh, N.C., 1988.

6. North Carolina Department of Environment, Health, and Natural Resources, Office of Chief Medical Examiner. Annual Report 1988. Raleigh, N.C., 1988.

7. Waller, P.F.; Stewart, J.R.; Hansen, A.R.; Stutts, J.C.; Lederhaus-Popkin, C.; Rodgman, E.A. "The Potentiating Effects of Alcohol on Driver Injury, Journal of the American Medical Association. Vol. 256, 1461-6: 1986.

8. National Committee for Injury Prevention and Control, Education Development Center, Inc., Injury Prevention: Meeting the Challenge. New York; Oxford University Press, 1989, p. 119.

9. North Carolina Department of Human Resources, State Center for Health Statistics. Leading Causes of Mortality: North Carolina Vital Statistics, Volume 2, 1981. Raleigh, September 1983.

10. National Highway Traffic Administrations. Final Rule, FMVSS 208: Occupant Crash Protection, 49 CPR, part 571. Washington, D.C., 1984.

11. National Committee for Injury Prevention and Control, Education Development Center, Inc. Injury Prevention: Meeting the Challenge. New York, New York: Oxford University Press, 1989.

12. Patetta, M.J., "A Descriptive Analysis of Housefire Deaths in North Carolina," SCHS Studies. No. 46, N.C. Department of Human Resources, Raleigh, N.C., 1988.

13. Patetta, M.J., "Drowning Deaths in North Carolina," SCHS Studies. No. 42, N.C. Department of Human Resources, Raleigh, N.C., 1986.

14. Governor's Task Force on Injury Prevention and Control. Injury In North Carolina. North Carolina Department of Environment, Health, and Natural Resources, Raleigh, N.C., 1989.

15. Surles, K., Sullivan, L., Nelson, M. "Health of the Elderly in North Carolina: Population at Risk and Patterns and Trends in Mortality," SCHS Studies. No. 51, N.C. Department of Human Resources, Raleigh, N.C. 1989.

16. Osgood, N. Suicide in the Elderly: A Practitioner's Guide to Diagnosis and Mental Health Intervention. Rockville, M.D.: Aspen Systems Corporation, 1985.

17. Miller, M. Suicide After Sixty: The Final Alternative. New York, N.Y.: Springer Publishing Company, Inc., 1979.

18. Sainsbury P. "The Epidemiology of Suicide," Suicide, Alec Roy, ed. Baltimore, Md.: Williams and Wilkins, 1986.

19. North Carolina Department of Justice. Crime in North Carolina, 1988, Raleigh, N.C.: State Bureau of Investigation, 1989.

20. University of California at Los Angeles, Centers for Disease Control: The Epidemiology of Homicide in the City of Los Angeles, 1970-79. Department of Health and Human Services, Public Health Service, Centers for Disease Control, August 1985.

21. Rushforth, N., et al. "Violent Death in a Metropolitan County: Changing Patterns in Homicide, 1958-74." N Engl J Med, 1977; 197:531-42.

VIII. INFANT MORTALITY

INFANT MORTALITY

After steady decreases for many years, North Carolina's infant mortality has risen each of the last two years. From 11.6 infant deaths per 1,000 live births in 1986, the rate rose to 12.1 in 1987 and 12.6 in 1988. In 1988, 1227 North Carolina babies died before age 1. Consequently, in 1988 North Carolina had the highest infant mortality rate in the United States, followed by Mississippi with the second highest. In 1988, North Carolina's infant mortality rate was 27% higher than the provisional United States rate of 9.9. (1)

During the period of steady decline in the infant mortality rate, beginning in the mid - 1970's, the state's Perinatal Care Program was developed with the goal of improving pregnancy outcome. With the operation of this program there occurred a general shift of deliveries from small hospitals to larger ones and a doubling of the percentage of very low birthweight deliveries occurring in hospitals with newborn intensive care units. Both of these occurrences aided in reducing infant mortality as did social and economic improvements over the period.

Low birthweight, which is the strongest risk factor for infant mortality, has shown relatively little improvement over the same period. The percent of births weighing less than 2500 grams (5 lbs., 8 oz.) was 8.7 in 1975, 7.9 in 1980, and 8.0 in 1988. This decline of 8 percent compares to a reduction in the infant mortality rate of 32 percent from 1975 to 1988. As further improvements in survival due to the expansion of newborn intensive care diminish, the lack of progress in preventing low-weight births is becoming evident in the recent unfavorable trend in infant mortality.

Of major concern is the persistent difference in infant mortality between whites and nonwhites. In 1975 the nonwhite rate was 1.8 times the white rate; by 1988 this gap had actually increased to 1.9 (white rate 9.6, nonwhite rate 18.7). Much of this difference is due to the high percent of low-weight births among nonwhites, which is about twice the percent for whites.

RISK FACTORS

Certain characteristics of the mother and infant that are recorded on the birth certificate have shown to be associated with excessive infant mortality. In addition to low birthweight and race, which were discussed above, these characteristics include: maternal age under 18; education less than twelve years; birth order greater than three; birth out of wedlock; and the experience of having had a previous live born who died or a previous fetal death (2). Low birthweight, low education levels, large family size, fetal mortality, out-of-wedlock birth, and teenage pregnancy are all inter-related and tend to occur more frequently among nonwhites and persons of lower socioeconomic status. Efforts to improve education levels, employment, housing, and incomes will have a direct, positive impact on infant mortality. Infant mortality cannot be separated from its broader context of under-development and poverty.

Proposals to improve infant mortality frequently consist exclusively of efforts to increase levels of prenatal care for women who are already pregnant. Inadequate prenatal care is an important risk factor for infant mortality, but simply increasing prenatal visits is not enough. The content of prenatal care is crucial and, especially for low-income women, must include in addition to obstetrical medical care services such as education, nutrition, counseling, and case management (3,4).

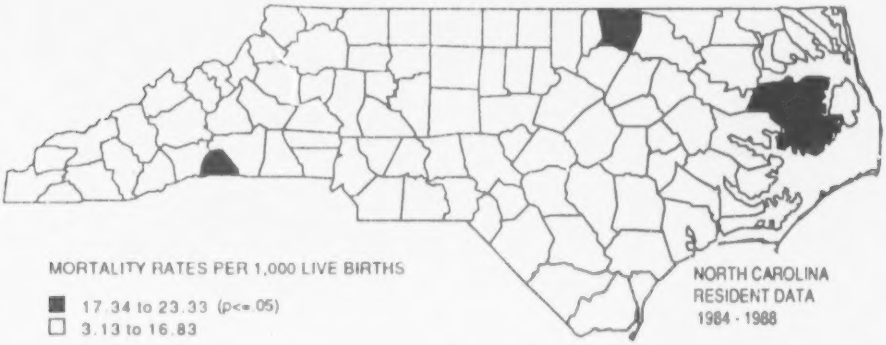
But prenatal care alone cannot be expected to substantially improve the serious and worsening problem of infant mortality in North Carolina. As indicated above, problems related to race and poverty must also be addressed. Also, pregnancy prevention is a critical component. Over 45 percent of reported pregnancies in North Carolina each year are either induced abortions or births to unmarried women or women under age 18. Many of these pregnancies are unintended and their prevention would reduce the rates of both abortion and infant mortality. Unmarried women and those under age 18 have nearly double the infant mortality rate of women who are married or age 18 and over. Teenagers account for less than 25 percent of these "unintended" births. An effort to prevent high-risk pregnancies in all childbearing age groups is essential to reducing infant mortality. Comprehensive prenatal care for high-risk women who do become pregnant is an important second line of defense.

GEOGRAPHIC PATTERNS

As shown in Figure 17, eastern North Carolina is the major area of high risk for infant mortality. These high rates are due in large part to the higher proportion of nonwhite births in these counties, combined with the much higher overall risk of infant mortality for nonwhites. (The higher proportion of nonwhite births in North Carolina as compared to the United States accounts for about half of the difference in infant mortality between North Carolina and the United States. The rates for each race are also considerably higher in North Carolina.)

Utilizing procedures described in Section II of this report, the map below shows a statistically significant cluster of high-rate counties in the far eastern part of the state (Washington, Tyrrell, and Hyde), along with two other counties with very high rates (Polk and Warren). Each of these rates is, however, based on less than 25 infant deaths in the numerator over the five-year period 1984-88 and therefore will have some degree of statistical error. In the 1979-81 period, other clusters were identified (5). The reader is thus cautioned not to single out these counties as the focus of the serious and widespread infant mortality problem in North Carolina.

INFANT DEATHS


MORTALITY RATES PER 1,000 LIVE BIRTHS
■ 17.34 to 23.33 (p<=.05)
☐ 3.13 to 16.83
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

With the highest rate in the nation in 1988, North Carolina's infant mortality problem presents a real challenge to health professionals concerned with the delivery of pregnancy prevention and prenatal care services, as well as to those responsible for improving the poor socioeconomic environment which underlies much of the problem.

TABLE- 21

MORTALITY STATISTICS FOR 1988

NORTH CAROLINA RESIDENTS

INFANT DEATHS(PER 1000 LIVE BIRTHS)

GEOGRAPHICAL AREA	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
NORTH CAROLINA	1227	12.57	5557	12.16	0.00
REGIONS					
DHR I WESTERN	402	12.71	1684	11.53	0.00
DHR II N. CENTRAL	235	12.34	1080	12.25	0.00
DHR III S. CENTRAL	332	13.20	1488	12.76	0.00
DHR IV EASTERN	258	11.85	1305	12.30	0.00
HSA I WESTERN	170	12.26	710	10.83	0.00
HSA II PIEDMONT	200	11.94	921	11.90	0.00
HSA III S. PIEDMONT	232	13.06	974	12.11	0.00
HSA IV CAPITAL	169	11.51	857	12.87	0.00
HSA V CARDINAL	224	13.85	955	12.40	0.00
HSA VI EASTERN	232	12.62	1140	12.69	0.00
COUNTIES					
1 ALAMANCE	15	9.39	66	9.74	0.00
2 ALEXANDER	3	9.37	19	11.27	0.00
3 ALLEGHANY	2	22.98	6	13.30	0.00
4 ANSON	7	17.54	27	15.06	0.00
5 ASHE	5	22.72	14	12.37	0.00
6 AVERY	0	0.00	3	3.13	0.00
7 BEAUFORT	10	16.92	38	13.57	0.00
8 BERTIE	1	3.16	22	13.91	0.00
9 BLADEN	5	12.53	30	15.89	0.00
10 BRUNSWICK	4	5.83	25	7.55	0.00
11 BUNCOMBE	25	10.59	105	9.71	0.00
12 BURKE	14	14.59	41	9.02	0.00
13 CABARRUS	16	11.46	71	11.18	0.00
14 CALDWELL	21	20.79	52	11.40	0.00
15 CAMDEN	0	0.00	2	5.73	0.00
16 CARTERET	10	14.55	41	11.54	0.00
17 CASWELL	3	11.02	7	5.51	0.00
18 CATAWBA	15	8.92	90	11.92	0.00
19 CHATHAM	7	12.02	31	11.64	0.00
20 CHEROKEE	1	4.67	8	7.37	0.00
21 CHOWAN	0	0.00	10	10.44	0.00
22 CLAY	0	0.00	3	8.10	0.00
23 CLEVELAND	19	14.64	92	15.77	0.00
24 COLUMBUS	8	11.52	45	12.14	0.00
25 CRAVEN	19	11.70	92	11.57	0.00
26 CUMBERLAND	86	15.16	349	12.94	0.00
27 CURRITUCK	2	10.25	16	16.58	0.00
28 DARE	3	8.98	10	7.00	0.00
29 DAVIDSON	15	9.15	86	10.86	0.00
30 DAVIE	1	3.04	15	9.79	0.00
31 DUPLIN	9	14.97	37	12.89	0.00
32 DURHAM	30	11.04	155	12.41	0.00
33 EDGECOMBE	16	17.48	68	15.44	0.00
34 FORSYTH	52	13.48	230	13.00	0.00
35 FRANKLIN	6	12.04	32	14.12	0.00
36 GASTON	37	13.80	179	14.47	0.00
37 GATES	1	8.19	10	15.87	0.00
38 GRAHAM	0	0.00	2	4.36	0.00
39 GRANVILLE	12	23.12	39	15.70	0.00
40 GREENE	4	22.09	14	13.91	0.00
41 GUILFORD	66	13.43	303	13.53	0.00

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

MORTALITY STATISTICS FOR 1988, NORTH CAROLINA RESIDENTS
INFANT DEATHS(PER 1000 LIVE BIRTHS) CONT'D.

COUNTIES (CONT'D)	NUMBER OF DEATHS 1988	DEATH RATE* 1988	NUMBER OF DEATHS 1984-88	DEATH RATE* 1984-88	ADJUSTED DEATH RATE* 1984-88
42 HALIFAX	15	16.85	58	13.75	0.00
43 HARNETT	22	18.64	68	12.21	0.00
44 HAYWOOD	5	9.39	21	8.02	0.00
45 HENDERSON	9	12.09	41	10.58	0.00
46 HERTFORD	4	11.33	19	10.88	0.00
47 HOKE	5	12.75	21	11.45	0.00
48 HYDE	1	16.12	6	17.34	0.00
49 IREDELL	24	19.59	80	13.88	0.00
50 JACKSON	1	3.43	16	11.72	0.00
51 JOHNSTON	16	13.78	59	11.06	0.00
52 JONES	0	0.00	10	15.03	0.00
53 LEE	7	11.04	37	12.07	0.00
54 LENOIR	8	10.10	57	14.53	0.00
55 LINCOLN	5	6.88	28	8.22	0.00
56 MCDOWELL	8	17.24	33	14.93	0.00
57 MACON	1	4.16	13	10.97	0.00
58 MADISON	1	5.37	7	7.70	0.00
59 MARTIN	4	11.49	25	13.65	0.00
60 MECKLENBURG	108	13.08	429	11.72	0.00
61 MITCHELL	1	5.00	5	5.47	0.00
62 MONTGOMERY	8	24.53	24	15.46	0.00
63 MOORE	10	13.92	36	9.99	0.00
64 NASH	15	13.16	77	14.32	0.00
65 NEW HANOVER	11	6.69	72	9.51	0.00
66 NORTHAMPTON	7	24.91	22	14.79	0.00
67 ONSLOW	39	11.73	192	11.54	0.00
68 ORANGE	12	10.63	59	11.33	0.00
69 PAMLICO	1	6.84	11	15.66	0.00
70 PASQUOTANK	3	5.85	27	11.54	0.00
71 PENDER	3	8.08	23	13.85	0.00
72 PERQUIMANS	2	13.79	9	12.34	0.00
73 PERSON	7	17.03	24	12.43	0.00
74 PITT	28	17.38	110	14.83	0.00
75 POLK	4	26.49	13	19.64	0.00
76 RANDOLPH	15	10.20	67	9.92	0.00
77 RICHMOND	12	18.26	50	16.82	0.00
78 ROBESON	28	15.14	119	13.31	0.00
79 ROCKINGHAM	12	10.21	61	10.91	0.00
80 ROWAN	20	13.74	78	11.13	0.00
81 RUTHERFORD	13	16.86	32	8.77	0.00
82 SAMPSON	9	13.95	34	11.05	0.00
83 SCOTLAND	6	11.23	32	12.42	0.00
84 STANLY	6	8.16	29	8.70	0.00
85 STOKES	2	4.40	16	7.43	0.00
86 SURRY	15	19.43	54	15.02	0.00
87 SWAIN	3	14.92	10	11.70	0.00
88 TRANSYLVANIA	2	6.55	17	11.78	0.00
89 TYRRELL	1	18.86	7	23.33	0.00
90 UNION	16	12.49	80	13.72	0.00
91 VANCE	6	9.47	42	14.59	0.00
92 WAKE	62	10.06	357	13.17	0.00
93 WARREN	4	16.87	22	18.80	0.00
94 WASHINGTON	7	29.66	22	20.83	0.00
95 WATAUGA	3	8.17	18	9.45	0.00
96 WAYNE	17	10.60	85	10.71	0.00
97 WILKES	12	17.46	42	11.48	0.00
98 WILSON	5	5.38	43	9.37	0.00
99 YADKIN	4	11.66	16	9.27	0.00
100 YANCEY	2	9.95	7	7.93	0.00

* SEE SECTION II; RATES BASED ON SMALL NUMBERS MAY BE UNRELIABLE.

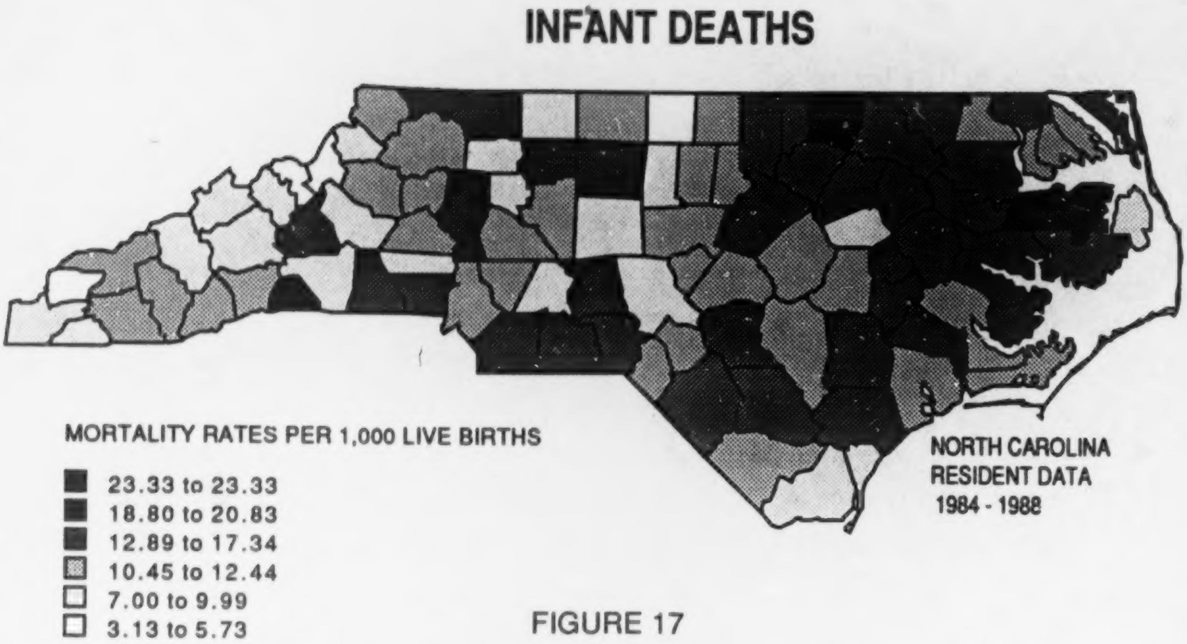

INFANT DEATHS
MORTALITY RATES PER 1,000 LIVE BIRTHS
■ 23.33 to 23.33
■ 18.80 to 20.83
■ 12.89 to 17.34
▨ 10.45 to 12.44
☐ 7.00 to 9.99
☐ 3.13 to 5.73
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 17

REFERENCES FOR SECTION VIII

1. Wegman, M.E. "Annual Summary of Vital Statistics, 1988", Pediatrics, Vol 84, No. 6, December 1989.

2. North Carolina Department of Human Resources, Division of Health Services. North Carolina Birth and Infant Mortality Statistics 1986, Volume 1. Raleigh, N.C., April 1988.

3. Institute of Medicine. Preventing Low Birthweight. Washington D.C., National Academy Press. 1985.

4. Buescher PA, Smith C, Holliday JL, Levine RH. "Source of Prenatal Care and Infant Birthweight: The Case of a North Carolina County," American Journal of Obstetrics and Gynecology 1987; 156: 204-210.

5. North Carolina Department of Human Resources, State Center for Health Statistics. Leading Causes of Mortality: North Carolina Vital Statistics, Volume 2, 1981. Raleigh, September 1983.

IX. MULTIPLE CONDITIONS PRESENT AT DEATH

MULTIPLE CONDITIONS PRESENT AT DEATH

Deaths have traditionally been tabulated by the major or "underlying" cause of death. In a modern society, however, where chronic diseases and injuries have come to replace acute infectious diseases as the leading causes of mortality, it has become increasingly difficult to describe each death by only one cause. In North Carolina, all conditions mentioned on the death certificate have been coded since 1975. Since then, it is possible to look at multiple conditions at death in a systematic manner.

In 1982 the Center for Health and Environmental Statistics (previously the State Center for Health Statistics) published Multiple Conditions Present at Death: A Special Study (1), which examined in detail the history of multiple-condition coding, trends from 1969 to 1978 in multiple causes of death, and data for the most recent years then available (1979 and 1980). Readers with a particular interest in this topic are referred to that publication. Copies are available from the Center for Health and Environmental Statistics.

In 1988, 77.8 percent of North Carolina residents had more than one condition mentioned on the death certificate, with 78.4 percent of white decedents and 76.1 percent of nonwhite decedents having more than one condition mentioned. This percentage was 76.0 for males versus 79.9 for females.

The percentage of deaths with more than one condition mentioned was 62.5 percent for infants, decreasing to a low of 28.4 at ages 15-24, and then increasing steadily through the older ages to 85.7 percent at ages 85 and older.

In a recent study entitled Health of the Elderly in North Carolina: Population at Risk and Patterns and Trends in Mortality (2), the Center for Health and Environmental Statistics examined mentioned-conditions data for older decedents. In the age groups 65-74, 75-84, and 85 and older, atherosclerosis, hypertension, and anemias were found to be reported as mentioned conditions 10 to 30 times as often as they were reported as underlying causes of death. Just as elderly mortality rates for underlying cause are higher for males than for females, so are most of the major mentioned-conditions rates, e.g., atheroslerosis and pneumonia/ influenza rates. The mentioned-conditions rates for these older age groups are also higher among nonwhites than among whites for hypertension, diabetes, and nephritis/nephrosis/nephrotic syndrome A more detailed analysis can be found in the referenced report (2).

Table 22 displays rates for the 15 leading underlying causes of death in 1988, first ranked by underlying cause and then by number of mentioned conditions per 100,000 population. These rates at best reflect morbidity just among those persons who die. And even this implies a completeness of reporting that is not actually present, since the certificate asks for only conditions "contributing to death" and medical certification may not reflect all conditions present at death. Nevertheless, a comparison of the two lists of Table 22 does identify causes contributing to death that are much more prevalent than counts relying solely on underlying cause would indicate. Note that heart disease and cancer rates top both the underlying-cause and mentioned-conditions lists.

An examination of race-sex variations among 1988 mentioned-conditions rates reveals that nonwhites experience higher rates than do whites for hypertension, diabetes, septicemia, nephritis/nephrotic syndrome/nephrosis, chronic liver disease and cirrhosis, homicide, and prostate cancer. For atherosclerosis, white males and white females have similar rates (199.5 and

202.6), with nonwhite males and nonwhite females having similar, though lower, rates of 152.2 and 158.3. The sex-specific rates are also similar within race for colon cancer: white males and white females at 24.2 and 25.0, respectively, and nonwhite males and nonwhite females at 22.0 and 22.5, respectively.

Females exhibit higher mentioned-condition rates than males for hypertension and cerebrovascular disease. Male rates are higher than female rates for pneumonia/influenza, nephritis/nephrosis/nephrotic syndrome, chronic liver disease and cirrhosis, heart disease, and cancer, particularly lung cancer.

Table 23 shows the number of deaths by underlying cause (first column) and then the number of certificates with a given underlying cause (each row) that had a mention of other conditions. For example, there were 1,326 deaths in 1988 with diabetes as the underlying cause, and 210 of these deaths also had a mention of nephritis, nephrotic syndrome, or nephrosis on the certificate (second page of Table 23, row 21, column 26). In total, 4,894 death certificates had a mention of diabetes in 1988 (second page of Table 23, column 21, bottom row).

Table 24 shows the number of deaths for which selected pairs of conditions were mentioned, without any consideration of the underlying cause. For example, 460 death certificates (out of a total of 57,630) had both diabetes and nephritis, nephrotic syndrome, or nephrosis mentioned (second page of Table 24, row 21, column 26). As in Table 23, the bottom row shows the total number of certificates with a mention of each of the conditions. For additional information about relationships in Tables 23 and 24, see Multiple Conditions Present at Death: A Special Study (1).

Table 25 compares the mentioned-conditions rates of 1981 and 1988. The mentioned-conditions rates for heart disease, athero-

TABLE 22

DEATHS PER 100,000 POPULATION BY CAUSE: RANKED BY UNDERLYING CAUSE AND MENTIONED CONDITIONS NORTH CAROLINA RESIDENTS, 1988

1988 Deaths with Cause as Underlying Cause	Number	Rate
Diseases of Heart	19421	299.4
Cancer	12700	195.8
Cerebrovascular Disease	4780	73.7
Chronic Obstructive Lung Disease	2098	32.3
Pneumonia and Influenza	1930	29.8
All Other Accidents and Adverse Effects	1616	24.9
Motor Vehicle Accidents	1598	24.6
Diabetes Mellitus	1326	20.4
Suicide	784	12.1
Chronic Liver Disease and Cirrhosis	711	10.8
Homicide	578	8.9
Septicemia	531	8.2
Nephritis, Nephrotic Syndrome, and Nephrosis	469	7.2
Atherosclerosis	414	6.4
Hypertension	283	4.4

1988 Deaths with Cause Mentioned: Cause	Number	Rate
Disease of Heart	30466	469.6
Cancer	14279	220.1
Atherosclerosis	12329	190.0
Cerebrovascular Disease	8570	132.1
Pneumonia and Influenza	5455	84.1
Chronic Obstructive Lung Disease	5396	83.2
Diabetes Mellitus	4894	75.4
Hypertension	4858	74.9
All Other Accidents and Adverse Effects	3645	56.2
Nephritis, Nephrotic Syndrome, and Nephrosis	3149	48.5
Septicemia	3015	46.5
Motor Vehicle Accidents	1613	24.9
Chronic Liver Disease and Cirrhosis	1052	16.2
Suicide	791	12.2
Homicide	585	9.0

NOTE: The mentioned conditions include the underlying cause.

TABLE 23

DEATHS BY SELECTED UNDERLYING CAUSE WITH FREQUENCY OF MENTIONED CONDITIONS, NORTH CAROLINA RESIDENTS, 1988

	Underlying Cause of Death	Total Under-lying*	Conditions Mentioned on Death Certificate (Numbers Refer to Row Titles)														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Diseases of heart	19,421	19,421	1,972	8,089	747	14	16	107	3	12	13	130	4	75	6	10
2	Cerebrovascular disease	4,780	1,364	4,780	1,501	152	2	2	17	0	4	0	18	0	27	3	1
3	Atherosclerosis	414	248	0	414	26	0	0	5	0	1	1	2	0	1	0	0
4	Cancer	12,700	2,832	354	474	12,700	249	332	1,355	190	678	98	3,694	210	1,120	149	310
5	Lip	234	44	10	8	234	234	0	0	0	0	4	0	0	0	0	0
6	Stomach	324	73	8	14	324	0	324	1	1	1	0	0	0	1	0	0
7	Colon, rectum, rectosigmoid junction & anus	1,331	284	33	49	1,331	0	1	1,331	3	1	0	4	1	3	1	2
8	Liver	185	37	2	7	185	0	1	1	185	2	0	0	0	0	0	0
9	Pancreas	671	140	10	19	671	0	0	0	0	671	0	4	1	3	0	1
10	Larynx	86	20	4	4	86	3	0	1	0	0	86	1	0	0	0	0
11	Trachea, bronchus and lung	3,669	777	84	136	3,669	5	1	7	0	0	5	3,669	1	7	2	0
12	Malignant melanoma	204	29	5	3	204	0	0	0	0	0	0	1	204	1	0	0
13	Female breast	1,093	183	25	28	1,093	0	0	5	0	1	0	2	0	1,093	0	2
14	Cervix uteri	142	34	2	4	142	0	0	0	0	0	0	0	0	0	142	0
15	Ovary & other uterine adnexa	304	78	0	7	304	0	0	1	0	0	0	0	0	3	0	304
16	Prostate	839	257	38	56	839	2	2	0	0	1	0	3	0	0	0	0
17	Bladder	215	63	10	18	215	1	0	1	0	0	1	0	0	0	1	0
18	Brain tumors	298	57	12	9	298	0	0	0	0	0	0	0	1	0	0	0
19	Non-Hodgkins lymphoma	398	97	16	16	398	0	0	0	0	0	0	1	1	2	0	1
20	Leukemia	452	115	25	14	452	0	0	2	0	0	1	2	1	1	2	0
21	Diabetes Mellitus	1,326	910	299	435	33	1	0	9	0	0	0	4	0	4	1	1
22	Pneumonia & Influenza	1,930	660	252	237	103	1	2	8	0	2	3	18	4	12	2	0
23	Chronic obstructive pulmonary disease & allied cond.	2,098	1,005	107	222	120	4	1	14	0	3	6	49	1	6	1	0
24	Chronic liver disease and cirrhosis	701	154	15	18	18	1	1	1	2	0	1	4	0	1	0	0
25	Septicemia	531	248	77	37	23	0	1	2	0	2	0	6	0	5	0	0
26	Nephritis, nephrotic syndrome & nephrosis	469	291	47	59	22	0	0	3	1	0	0	5	0	4	1	0
27	Motor vehicle accidents—unintentional injuries	1,598	82	9	10	2	0	0	0	0	1	0	0	0	0	0	0
28	All other unintentional injuries & adverse effects	1,616	375	70	68	33	3	1	3	0	0	0	5	0	7	0	1
29	Suicide	784	22	1	2	19	0	0	2	0	0	2	2	0	0	0	0
30	Homicide	578	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL DEATHS**	57,630	30,466	8,570	12,329	14,279	282	358	1,558	197	709	133	3,975	220	1,302	167	323

TABLE 23 — continued

DEATHS BY SELECTED UNDERLYING CAUSE WITH FREQUENCY OF MENTIONED CONDITIONS, NORTH CAROLINA RESIDENTS, 1988

	Underlying Cause of Death	Conditions Mentioned on Death Certificate (Numbers Refer to Row Titles)																
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Alcohol	Hyper-tension
1	Diseases of heart	155	32	6	29	32	1,941	853	1,584	113	262	887	9	543	0	0	226	2,588
2	Cerebrovascular disease	33	6	0	9	7	425	442	182	19	172	115	0	245	0	0	31	852
3	Atherosclerosis	8	3	0	0	1	35	39	19	2	10	63	0	22	0	0	1	0
4	Cancer	882	227	301	427	473	405	793	807	44	436	416	0	316	0	0	54	290
5	Lip	0	0	0	0	1	10	18	10	0	7	1	0	8	0	0	5	5
6	Stomach	0	0	0	1	2	9	14	12	2	9	5	0	9	0	0	3	7
7	Colon, rectum, rectosigmoid junction & anus	4	1	0	0	0	48	40	28	8	33	39	0	36	0	0	1	31
8	Liver	1	0	0	0	0	7	5	2	11	6	2	0	1	0	0	3	8
9	Pancreas	3	0	0	0	0	50	17	17	3	20	17	0	9	0	0	5	24
10	Larynx	0	0	0	0	0	5	7	10	0	2	1	0	6	0	0	3	2
11	Trachea, bronchus and lung	23	5	3	11	9	91	344	516	6	66	45	0	86	0	0	10	80
12	Malignant melanoma	0	2	0	1	0	4	10	6	0	5	6	0	4	0	0	1	6
13	Female breast	0	0	0	2	2	27	35	26	3	25	25	0	22	0	0	2	21
14	Cervix uteri	0	0	0	0	0	6	5	1	0	5	16	0	3	0	0	0	2
15	Ovary & other uterine adnexa	0	0	0	0	1	8	5	4	1	8	16	0	2	0	0	1	3
16	Prostate	839	1	0	0	1	31	47	29	1	30	70	0	15	0	0	2	26
17	Bladder	3	215	0	0	0	5	14	11	0	5	23	0	7	0	0	3	7
18	Brain tumors	1	1	298	0	0	12	25	8	0	4	1	0	8	0	0	1	4
19	Non-Hodgkins lymphoma	2	0	0	398	4	13	34	9	0	47	26	0	18	0	0	0	4
20	Leukemia	3	0	0	11	452	14	47	15	0	64	22	0	13	0	0	0	5
21	Diabetes Mellitus	5	0	0	1	3	1,326	76	34	4	116	210	0	47	0	0	16	286
22	Pneumonia & Influenza	14	2	2	7	11	124	1,930	159	27	243	122	0	29	0	0	42	51
23	Chronic obstructive pulmonary disease & allied cond.	16	5	3	0	3	80	393	2,098	14	53	74	1	61	1	0	28	74
24	Chronic liver disease and cirrhosis	0	2	0	0	1	45	37	18	696	49	69	1	24	0	0	377	14
25	Septicemia	3	0	0	0	0	49	36	18	8	531	84	0	12	0	0	4	15
26	Nephritis, nephrotic syndrome & nephrosis	0	0	0	0	3	27	46	18	9	45	469	0	14	0	0	7	13
27	Motor vehicle accidents—unintentional injuries	0	0	0	0	0	3	6	4	3	13	7	1,598	9	0	1	142	7
28	All other unintentional injuries & adverse effects	2	0	0	1	2	31	46	48	13	64	46	0	1,616	0	0	218	38
29	Suicide	3	0	0	0	1	5	2	5	2	2	2	1	4	784	0	42	2
30	Homicide	0	0	0	0	0	1	1	0	0	5	2	0	2	0	578	21	0
	TOTAL DEATHS**	1,159	281	314	489	562	4,894	5,455	5,396	1,052	3,015	3,149	1,613	3,645	791	585	1,634	4,858

*Numbers shown here are the final underlying frequencies. They are sometimes larger than numbers shown on the diagonal due to the fact that a sequence of conditions may imply an underlying cause that is not specifically mentioned on the death certificate.

**Differences between these totals and the summation over causes are attributable to causes not given in the table.

Note: In this table, a death is counted only once in a condition category although several conditions within the category may have been reported or a single condition may have been recorded more than once on the death certificate.

TABLE 24

NUMBER OF DEATHS WITH SELECTED PAIRS OF CONDITIONS MENTIONED TOGETHER, NORTH CAROLINA RESIDENTS, 1988

	Conditions Mentioned on Death Certificate	Conditions Mentioned on Death Certificate (Numbers Refer to Row Titles)														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Diseases of heart	30,466	4,057	10,759	3,892	66	95	428	43	161	44	964	36	309	44	91
2	Cerebrovascular disease	4,057	8,570	2.994	604	19	12	68	4	14	5	118	5	64	8	1
3	Atherosclerosis	10,759	2,994	12,329	955	18	23	120	9	25	15	216	5	92	9	13
4	Cancer	3,892	604	955	14,279	282	358	1,558	197	709	133	3,975	220	1,302	167	323
5	Lip	66	19	18	282	282	0	1	0	0	7	7	0	0	0	0
6	Stomach	95	12	23	358	0	358	2	2	1	0	1	0	1	0	0
7	Colon, rectum, rectosigmoid junction & anus	428	68	120	1,558	1	2	1,558	4	2	1	13	1	12	1	3
8	Liver	43	4	9	197	0	2	4	197	2	0	1	0	0	0	0
9	Pancreas	161	14	25	709	0	1	2	2	709	0	4	1	4	0	1
10	Larynx	44	5	15	133	7	0	1	0	0	133	6	0	0	0	0
11	Trachea, bronchus and lung	964	118	216	3,975	7	1	13	1	4	6	3,975	2	10	2	0
12	Malignant melanoma	36	5	5	220	0	0	1	0	1	0	2	220	1	0	0
13	Female breast	309	64	92	1,302	0	1	12	0	4	0	10	1	1,302	1	5
14	Cervix uteri	44	8	9	167	0	0	1	0	0	0	2	0	1	167	0
15	Ovary & other uterine adnexa	91	1	13	323	0	0	3	0	1	0	0	0	5	0	323
16	Prostate	478	91	169	1,159	3	2	10	1	5	1	32	0	0	0	0
17	Bladder	108	21	41	281	1	0	4	0	1	1	6	2	1	1	0
18	Brain tumors	66	12	10	314	0	0	0	0	0	0	3	1	0	0	0
19	Non-Hodgkins lymphoma	137	29	35	489	0	1	0	0	0	0	12	2	4	0	1
20	Leukemia	167	39	30	562	1	2	2	0	0	1	14	1	4	2	1
21	Diabetes Mellitus	3,574	1,115	1,785	559	15	10	75	7	53	7	115	6	57	8	10
22	Pneumonia & Influenza	2,345	1,024	1,049	1,004	21	18	60	5	19	14	385	15	61	7	5
23	Chronic obstructive pulmonary disease & allied cond.	3,309	480	1,267	1,059	20	14	61	2	22	25	606	7	42	4	4
24	Chronic liver disease and cirrhosis	344	41	80	71	1	3	9	13	5	2	14	0	4	0	1
25	Septicemia	1,254	465	368	534	9	11	40	7	22	2	84	8	43	8	9
26	Nephritis, nephrotic syndrome & nephrosis	1,954	354	730	518	4	5	50	4	20	2	58	6	41	20	17
27	Motor vehicle accidents—unintentional injuries	93	9	13	2	0	0	0	0	1	0	0	0	0	0	0
28	All other unintentional injuries & adverse effects	1,441	448	496	421	14	11	47	1	10	9	98	5	43	7	4
29	Suicide	22	1	2	19	0	0	2	0	0	2	2	0	0	0	0
30	Homicide	21	0	1	0	0	0	0	0	0	0	0	0	0	0	0
31	Alcohol-related conditions	480	63	106	74	9	4	2	3	6	4	16	1	3	0	1
32	Hypertension with or without renal disease	3,682	1,501	1,433	421	7	7	48	9	25	10	93	8	51	6	3
	TOTAL DEATHS**	30,466	8,570	12,329	14,279	282	358	1,558	197	709	133	3,975	220	1,302	167	323

TABLE 24 — continued

NUMBER OF DEATHS WITH SELECTED PAIRS OF CONDITIONS MENTIONED TOGETHER, NORTH CAROLINA RESIDENTS, 1988

	Conditions Mentioned on Death Certificate	Conditions Mentioned on Death Certificate (Numbers Refer to Row Titles)																
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1	Diseases of heart	478	108	66	137	167	3,574	2,345	3,309	344	1,254	1,954	93	1,441	22	21	480	3,682
2	Cerebrovascular disease	91	21	12	29	39	1,115	1,024	480	41	465	354	9	448	1	0	63	1,501
3	Atherosclerosis	169	41	10	35	30	1,785	1,049	1,267	80	368	730	13	496	2	1	106	1,433
4	Cancer	1,159	281	314	489	562	559	1,004	1,059	71	534	518	2	421	19	0	74	421
5	Lip	3	1	0	0	1	15	21	20	1	9	4	0	14	0	0	9	7
6	Stomach	2	0	0	1	2	10	18	14	3	11	5	0	11	0	0	4	7
7	Colon, rectum, rectosigmoid junction & anus	10	4	0	0	2	75	60	61	9	40	50	0	47	2	0	2	48
8	Liver	1	0	0	0	0	7	5	2	13	7	4	0	1	0	0	3	9
9	Pancreas	5	1	0	0	0	53	19	22	5	22	20	1	10	0	0	6	25
10	Larynx	1	1	0	0	1	7	14	25	2	2	2	0	9	2	0	4	10
11	Trachea, bronchus and lung	32	6	3	12	14	115	385	606	14	84	58	0	98	2	0	16	93
12	Malignant melanoma	0	2	1	2	1	6	15	7	0	8	6	0	5	0	0	1	8
13	Female breast	0	1	0	4	4	57	61	42	4	43	41	0	43	0	0	3	51
14	Cervix uteri	0	1	0	0	2	8	7	4	0	8	20	0	7	0	0	0	6
15	Ovary & other uterine adnexa	0	0	0	1	1	10	5	4	1	9	17	0	4	0	0	1	3
16	Prostate	1,159	7	1	2	4	64	89	78	3	43	93	0	27	3	0	3	46
17	Bladder	7	281	1	0	0	10	20	30	2	9	32	0	12	0	0	3	11
18	Brain tumors	1	1	314	0	0	12	29	11	0	5	1	0	10	0	0	1	4
19	Non-Hodgkins lymphoma	2	0	0	489	16	20	45	12	0	52	31	0	24	0	0	0	9
20	Leukemia	4	0	0	16	562	22	66	27	2	76	29	0	22	1	0	0	10
21	Diabetes Mellitus	64	10	12	20	22	4,894	384	322	65	325	460	4	200	5	1	59	1,146
22	Pneumonia & Influenza	89	20	29	45	66	384	5,455	845	83	579	407	7	248	2	1	128	263
23	Chronic obstructive pulmonary disease & allied cond.	78	30	11	12	27	322	845	5,396	57	183	251	5	238	6	0	106	393
24	Chronic liver disease and cirrhosis	3	2	0	0	2	65	83	57	1,052	79	98	4	55	2	0	469	36
25	Septicemia	43	9	5	52	76	325	579	183	79	3,015	390	14	248	2	5	102	125
26	Nephritis, nephrotic syndrome & nephrosis	93	32	1	31	29	460	407	251	98	390	3,149	9	169	2	2	91	99
27	Motor vehicle accidents—unintentional injuries	0	0	0	0	0	4	7	5	4	14	9	1,613	9	1	1	143	8
28	All other unintentional injuries & adverse effects	27	12	10	24	22	200	248	238	55	248	169	9	3,645	4	4	283	158
29	Suicide	3	0	0	0	1	5	2	6	2	2	2	1	4	791	0	44	2
30	Homicide	0	0	0	0	0	1	1	0	0	5	2	1	4	0	585	22	1
31	Alcohol-related conditions	3	3	1	0	0	59	128	106	469	102	91	143	283	44	22	1,634	91
32	Hypertension with or without renal disease	46	11	4	9	10	1,146	263	393	36	125	99	8	158	2	1	91	4,858
	TOTAL DEATHS*	1,159	281	314	489	562	4,894	5,455	5,396	1,052	3015	3,149	1,613	3,645	791	585	1,634	4,858

*Differences between these totals and the summation over causes are attributable to causes not given in the table and to multiple counting of a condition if it appears in combination with more than one other condition on a certificate.

Note: In this table, a death is counted only once in a condition category although several conditions within the category may have been reported or a single condition may have been recorded more than once on the death certificate. Also, the ICD-9 codes used to count hypertension and atherosclerosis mentions are different from the codes used to count underlying cause elsewhere in this report. For further explanation, see *Multiple Conditions Present at Death: A Special Study*, SCHS, 1982.

TABLE 25

DEATHS WITH MENTION OF SELECTED CONDITIONS PER 100,000 POPULATION: NORTH CAROLINA RESIDENTS, 1981 AND 1988

Mentioned Condition	1981	1988
Diseases of Heart	448.1	469.6
Atherosclerosis	247.0	190.0
Cancer	188.9	220.1
Trachea, Bronchus, and Lung	46.8	61.3
Prostate	32.9	37.1
Female Breast	30.5	38.7
Colon, Rectum, and Anus	21.1	24.0
Cerebrovascular Disease	132.6	132.1
Hypertension with or without Renal Disease	72.3	74.8
Pneumonia and Influenza	67.4	84.1
Diabetes Mellitus	60.6	75.4
Chronic Obstructive Pulmonary Disease	57.0	83.2
Non-motor-vehicle Accidents and Adverse Effects	50.8	56.2
Septicemia	NA	46.5
Nephritis, Nephrosis, and Nephrotic Syndrome	40.3	48.5
Motor Vehicle Accidents	26.0	24.9
Chronic Liver Disease and Cirrhosis	16.3	16.2
Suicide	12.9	12.2
Homicide	10.6	9.0

TABLE 26

RATIO OF MENTIONED CONDITIONS TO UNDERLYING CAUSE OF DEATH
NORTH CAROLINA RESIDENTS, 1988

Mentioned Condition	Ratio
Atherosclerosis	29.8
Hypertension	17.2
Nephritis, Nephrosis, and Nephrotic Syndrome	6.7
Septicemia	5.7
Diabetes Mellitus	3.7
Pneumonia and Influenza	2.8
Chronic Obstructive Pulmonary Disease and Allied Conditions	2.6
Non-motor Vehicle Accidents and Adverse Effects	2.3
Diseases of the Heart	1.8
Cerebrovascular Disease	1.6
Chronic Liver Disease and Cirrhosis	1.6
Cancer	1.1
Prostate	1.4
Female Breast	1.2
Colon, Rectum, Anus	1.2
Trachea, Bronchus, and Lung	1.1
Motor Vehicle Accidents	1.0
Suicide	1.0
Homicide	1.0

sclerosis, cancer, and cerebrovascular disease remained the highest. The heart disease rate rose 4.7 percent, and the cancer rate rose 16.4 percent. Notable increases in two of the cancer mentioned-conditions rates were: cancer of the trachea, bronchus and/or lung (up 30.7 percent) and female breast cancer (up 26.5 percent). The atherosclerosis and homicide rates fell 23.1 and 15.1 percent, respectively, while the cerebrovascular disease rate remained the same. Mentioned-conditions rates for chronic obstructive pulmonary disease, pneumonia and influenza, diabetes, and nephritis/nephrosis/nephrotic syndrome increased 46.0, 24.6, 24.4, and 20.3 percent, respectively. The mentioned-conditions rate for septicemia increased 63.7 percent.

When mentioned conditions were first coded in North Carolina in 1975, the ratio of mentioned conditions to underlying causes was relatively small, but it increased steadily until the early eighties. In 1988, the ratio of mentioned conditions to underlying causes (Table 26) was particularly high for atherosclerosis (29.8), hypertension (17.2), nephritis/nephrosis/nephrotic syndrome (6.7), septicemia (5.7), and diabetes (3.7). These ratios are similar to the 1981 ratios for those same causes: atherosclerosis (25.4), hypertension (18.0), nephritis/nephrosis/nephrotic syndrome (4.7), septicemia (5.6), and diabetes (4.5). Thus, the certification of mentioned conditions appears to have stabilized during the eighties.

GEOGRAPHIC PATTERNS

County maps in this section show 1984-88 mentions per 100,000 resident population for those causes with the highest ratios of mentioned condition to underlying cause of death. Figures 18 through 22 depict unadjusted and age-race-sex-adjusted mentioned-conditions rates by county for septicemia, diabetes, hypertension, atherosclerosis, and nephritis, nephrosis and nephrotic syndrome. The reader should exercise caution in interpreting these rates which may be affected by county-to-county differences in death certification practices. A low rate for a particular county may reflect incompleteness in the certifiers' enumerations of conditions contributing to death rather than lack of a health problem.

The geographic clustering technique described in Section II is used to produce Figures I through V which identify statistically significant contiguous groups of counties with high rates. Figure I.a reveals several clusters of high atherosclerosis rates. These clusters are defined by the following counties: (1) Gates, Perquimans, and Chowan; (2) Hyde and Beaufort; (3) Duplin, Lenoir, and Wayne; and (4) Swain, Haywood, Madison, Buncombe, McDowell, Henderson, Polk, Rutherford, and Cleveland. Upon adjustment for age, race, and sex (Figure I.b) the clusters of high atherosclerosis rates shift. In the mountains, the cluster becomes much smaller, moves to the east, and is comprised of Avery, McDowell, Burke, Caldwell, Cleveland, and Gaston counties. Other clusters for adjusted atherosclerosis rates are comprised of: Camden and Pasquotank counties; Cumberland, Bladen, and Robeson counties; and in the Coastal Plains, a large cluster extending from Johnston County east to Hyde County and from Nash County south to Duplin County.

While one large cluster in the northeast appears of high unadjusted hypertension rates (Figure II), this cluster disappears upon adjustment for age, race, and sex. Three clusters appear in the map of high unadjusted rates for nephritis, nephrosis, and nephrotic syndrome (Figure III) -- again in the northeast, as was the case with hypertension, but also in the southeast and far western parts of the state. These clusters disappear upon adjustment. The cluster map for high unadjusted septicemia rates (Figure IV.a) shows a strong regional concentration in the northeast that persists upon adjustment (Figure IV.b). Two additional septicemia clusters appear upon adjustment: one consisting of Surry, Stokes, Yadkin, Forsyth, Iredell, and Davie counties and another in the east centering around Craven County. The cluster maps for both unadjusted (Figure V.a) and adjusted (Figure V.b) high diabetes rates indicate a strong regional concentration in the eastern part of the state. Adjusted diabetes rates also identify a cluster of high rates in the west centering around Burke County.

Thus, residents of eastern North Carolina appear to be at above-average risk for death associated with atherosclerosis, septicemia, and diabetes, after the effects of different age-race-sex distributions have been taken into account. Residents of McDowell, Burke, Caldwell, and Avery counties are at high risk for death associated with atherosclerosis and diabetes. All counties should consult Figures 18.a through 22.b to determine their relative levels of unadjusted and age-race-sex-adjusted mortality involving the five conditions examined in this section. Again, users should keep in mind that certification practices undoubtedly influence these rates.

SEPTICEMIA - MENTIONED

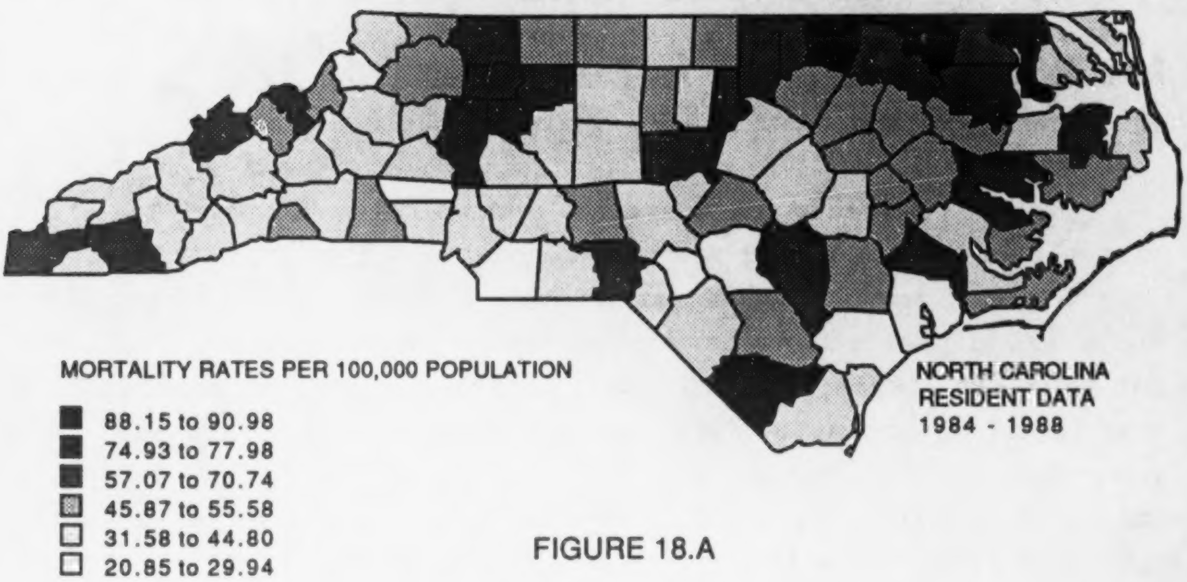

MORTALITY RATES PER 100,000 POPULATION
88.15 to 90.98
74.93 to 77.98
57.07 to 70.74
45.87 to 55.58
31.58 to 44.80
20.85 to 29.94
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 18.A

SEPTICEMIA - MENTIONED

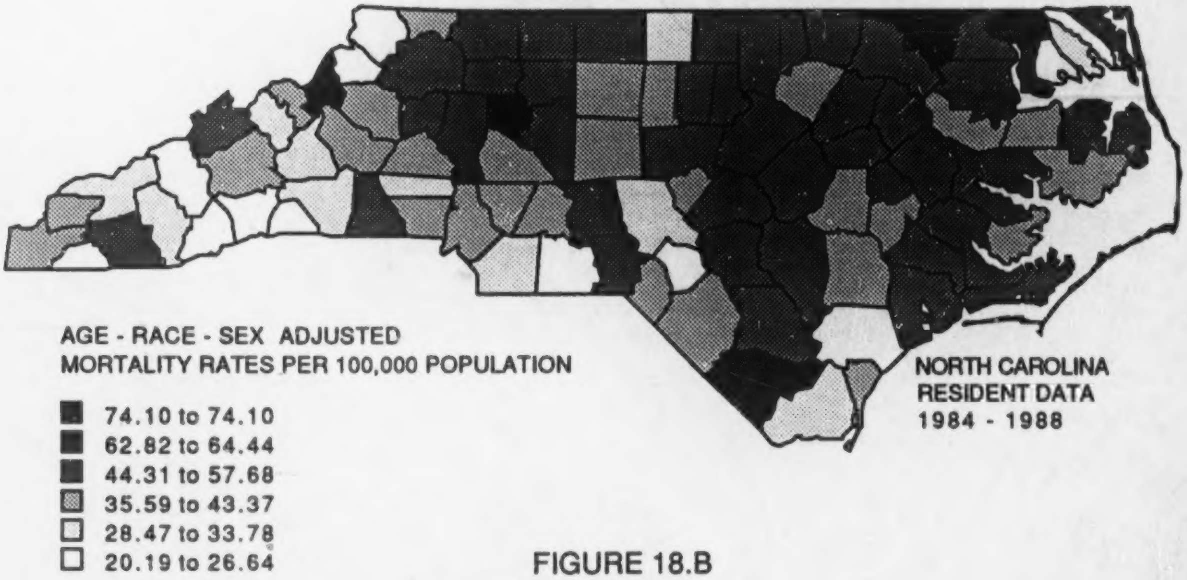
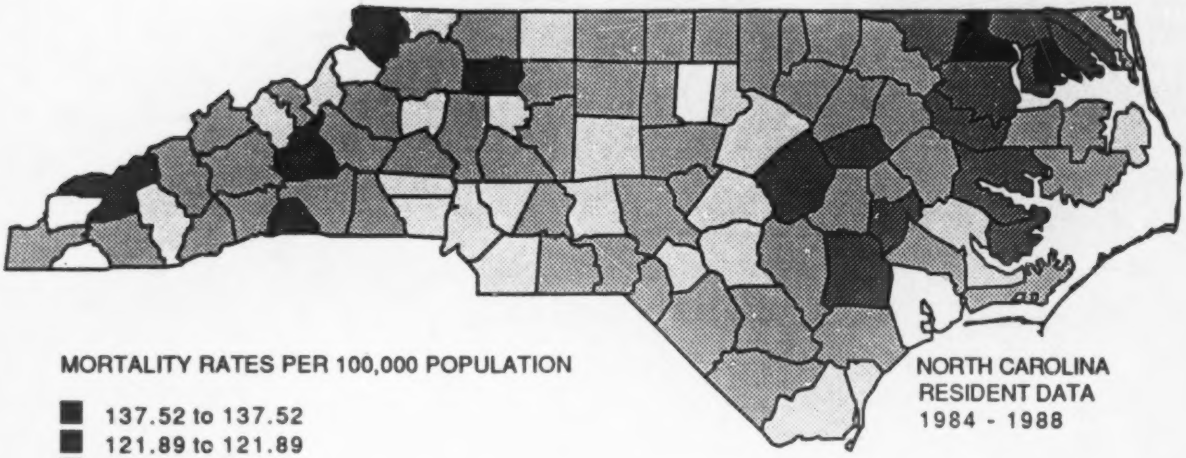

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
74.10 to 74.10
62.82 to 64.44
44.31 to 57.68
35.59 to 43.37
28.47 to 33.78
20.19 to 26.64
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 18.B

DIABETES MELLITUS - MENTIONED



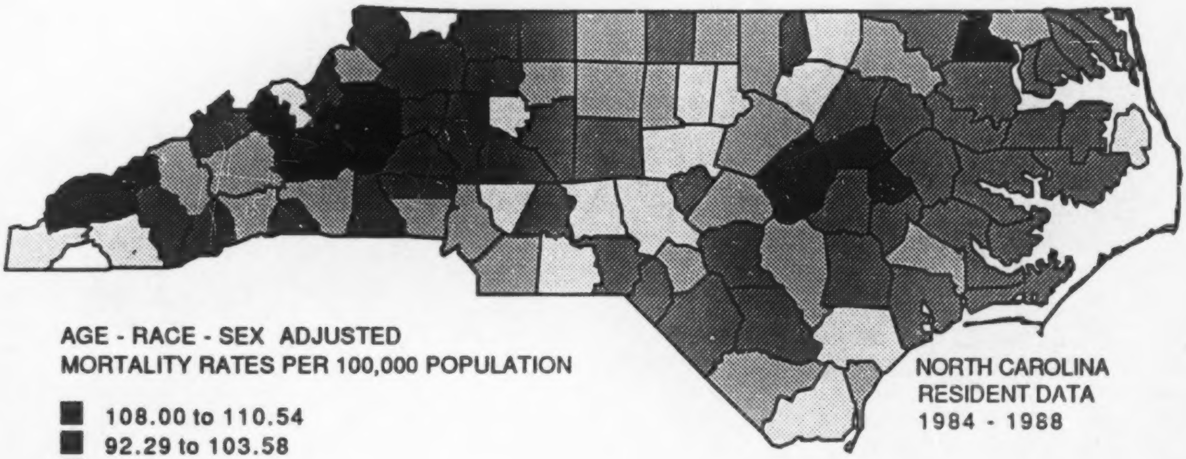
MORTALITY RATES PER 100,000 POPULATION

- ■ 137.52 to 137.52
- ■ 121.89 to 121.89
- ■ 94.80 to 113.89
- ▨ 65.40 to 91.49
- ☐ 41.64 to 63.79
- ☐ 30.76 to 37.29

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 19.A

DIABETES MELLITUS - MENTIONED



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

- ■ 108.00 to 110.54
- ■ 92.29 to 103.58
- ■ 70.44 to 90.21
- ▨ 60.23 to 69.71
- ☐ 43.09 to 58.25
- ☐ 16.35 to 28.30

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 19.B

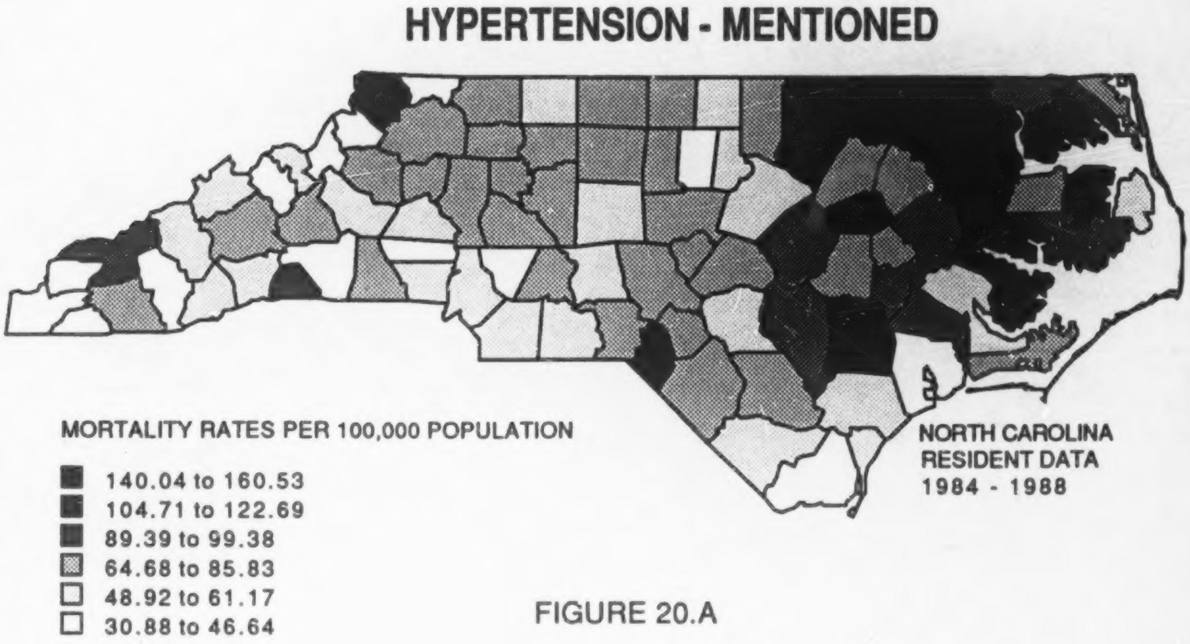

HYPERTENSION - MENTIONED
MORTALITY RATES PER 100,000 POPULATION
■ 140.04 to 160.53
■ 104.71 to 122.69
■ 89.39 to 99.38
▨ 64.68 to 85.83
☐ 48.92 to 61.17
☐ 30.88 to 46.64
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 20.A

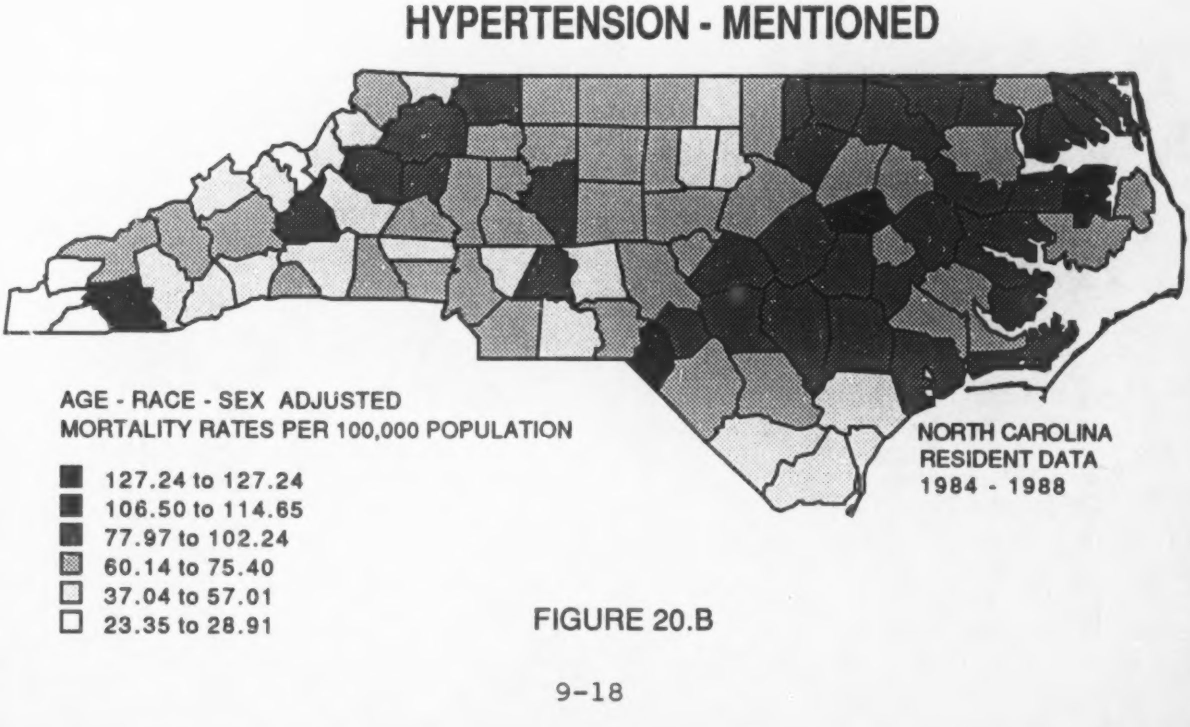
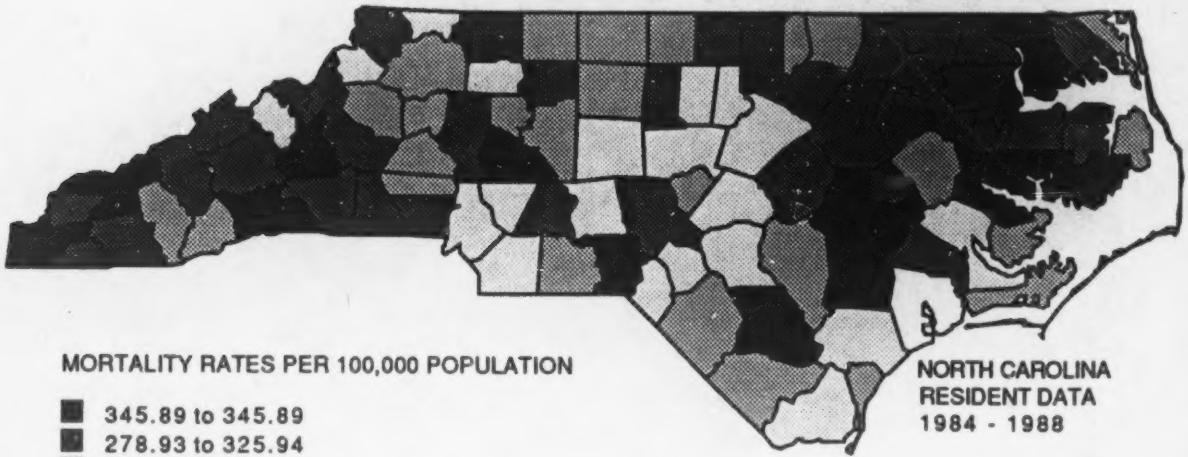

HYPERTENSION - MENTIONED
AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 127.24 to 127.24
■ 106.50 to 114.65
■ 77.97 to 102.24
▨ 60.14 to 75.40
☐ 37.04 to 57.01
☐ 23.35 to 28.91
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 20.B

ATHEROSCLEROSIS - MENTIONED

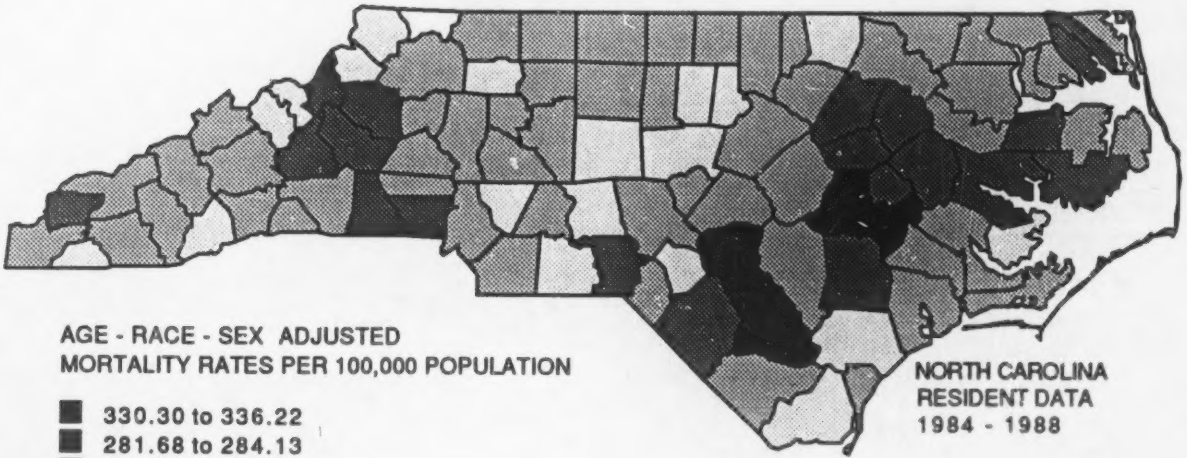

MORTALITY RATES PER 100,000 POPULATION

- ■ 345.89 to 345.89
- ■ 278.93 to 325.94
- ■ 219.07 to 271.59
- ▨ 184.10 to 215.34
- □ 103.41 to 171.20
- □ 72.26 to 72.26

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 21.A

ATHEROSCLEROSIS - MENTIONED

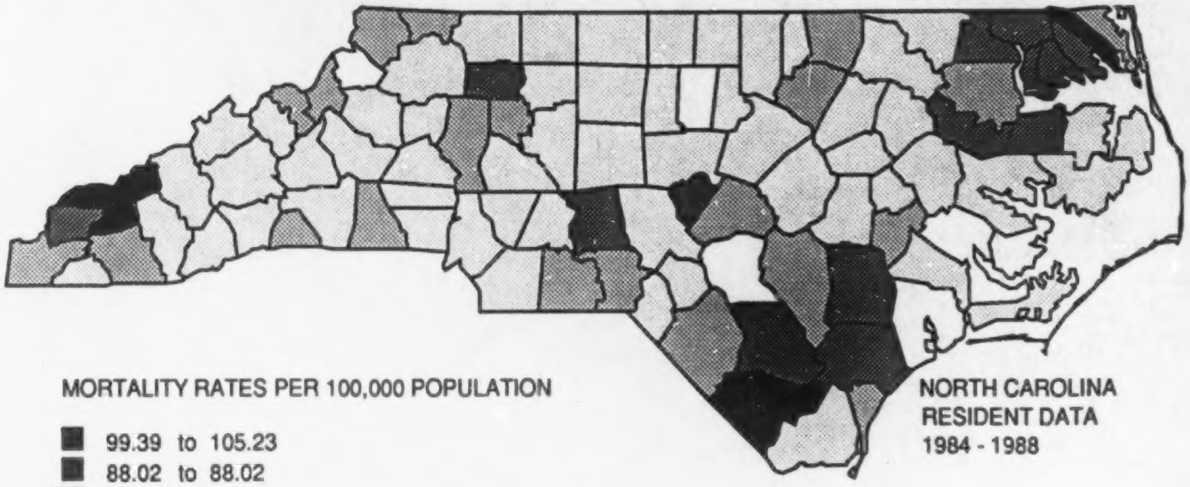

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

- ■ 330.30 to 336.22
- ■ 281.68 to 284.13
- ■ 231.80 to 263.91
- ▨ 170.80 to 226.96
- □ 122.41 to 161.34
- □ 104.10 to 104.10

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 21.B

NEPHRITIS, NEPHROTIC SYNDROME* - MENTIONED



MORTALITY RATES PER 100,000 POPULATION

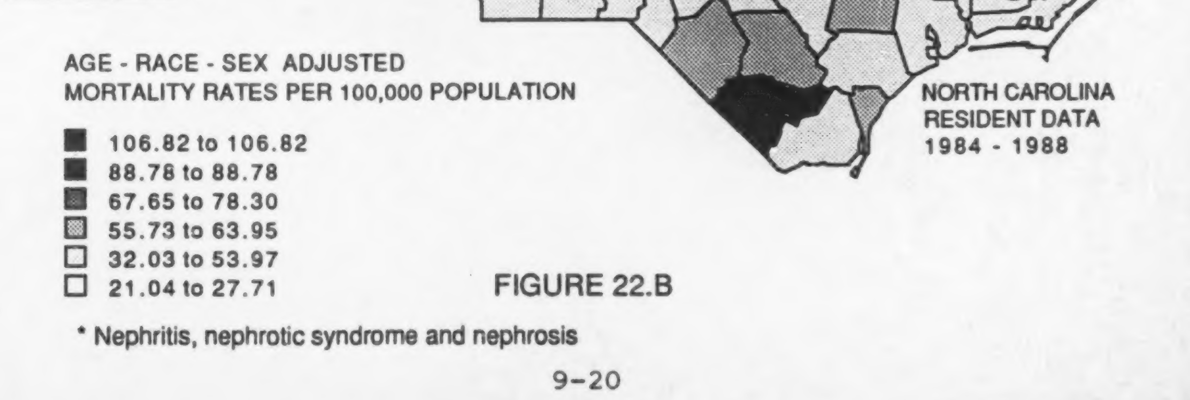
- ■ 99.39 to 105.23
- ■ 88.02 to 88.02
- ▩ 66.01 to 79.76
- ▨ 54.31 to 64.64
- ☐ 34.68 to 52.23
- ☐ 23.76 to 31.30

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 22.A

* Nephritis, nephrotic syndrome and nephrosis

NEPHRITIS, NEPHROTIC SYNDROME* - MENTIONED



AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

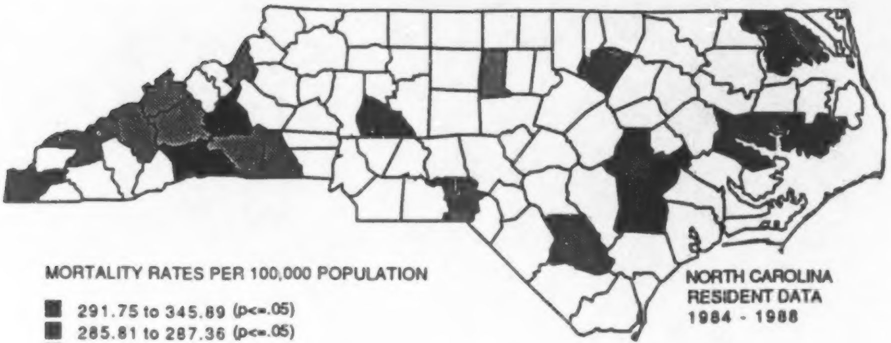
- ■ 106.82 to 106.82
- ■ 88.78 to 88.78
- ▩ 67.65 to 78.30
- ▨ 55.73 to 63.95
- ☐ 32.03 to 53.97
- ☐ 21.04 to 27.71

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE 22.B

* Nephritis, nephrotic syndrome and nephrosis

ATHEROSCLEROSIS - MENTIONED



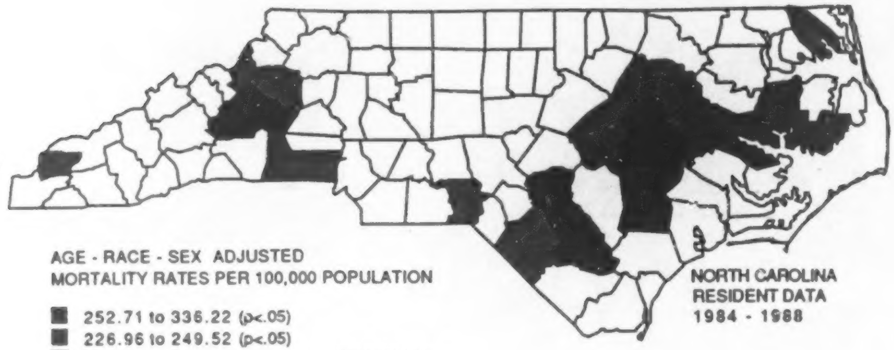
MORTALITY RATES PER 100,000 POPULATION

■ 291.75 to 345.89 ($p<=.05$)
■ 285.81 to 287.36 ($p<=.05$)
■ 255.43 to 283.57 ($p<=.05$)
☐ 72.26 to 253.92

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE I.a

ATHEROSCLEROSIS - MENTIONED



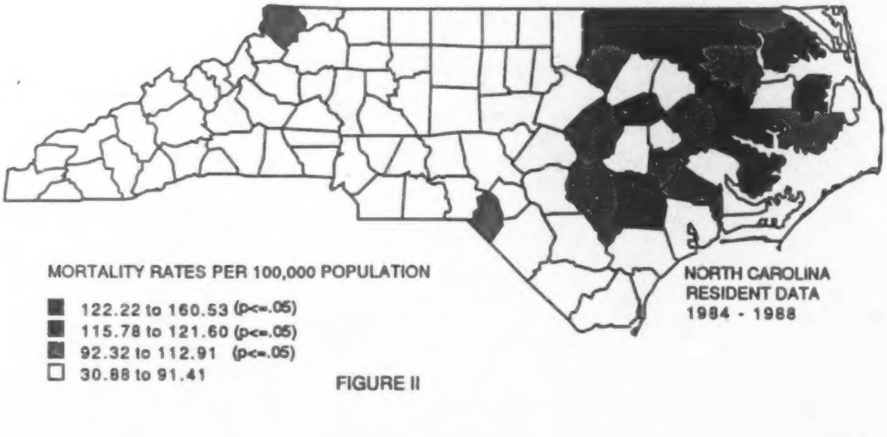
AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

■ 252.71 to 336.22 ($p<.05$)
■ 226.96 to 249.52 ($p<.05$)
☐ 104.10 to 225.23

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE I.b

HYPERTENSION - MENTIONED



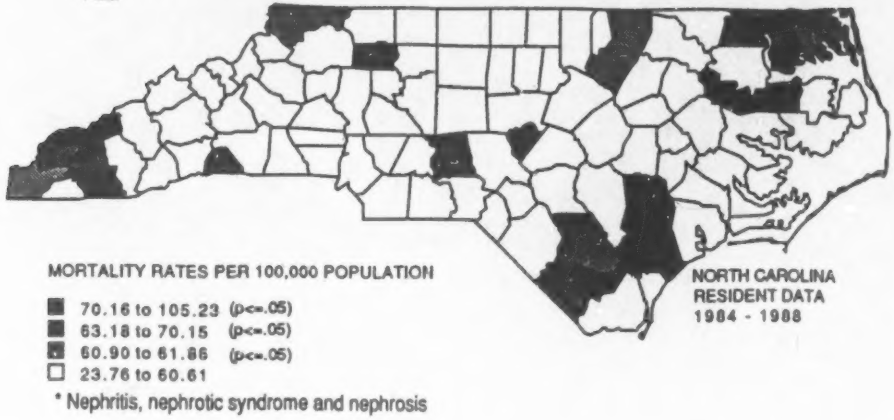
MORTALITY RATES PER 100,000 POPULATION

■ 122.22 to 160.53 ($p<=.05$)
■ 115.78 to 121.60 ($p<=.05$)
■ 92.32 to 112.91 ($p<=.05$)
☐ 30.88 to 91.41

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE II

NEPHRITIS, NEPHROTIC SYNDROME* - MENTIONED


MORTALITY RATES PER 100,000 POPULATION

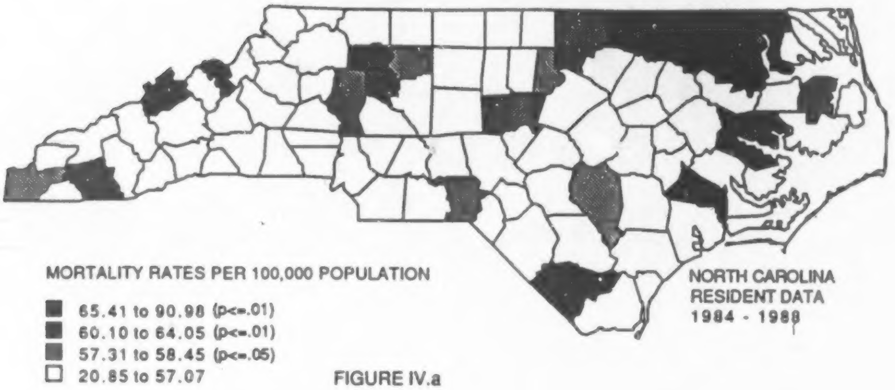
■ 70.16 to 105.23 ($p<=.05$)
■ 63.18 to 70.15 ($p<=.05$)
▨ 60.90 to 61.86 ($p<=.05$)
☐ 23.76 to 60.61

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

* Nephritis, nephrotic syndrome and nephrosis

FIGURE III

SEPTICEMIA - MENTIONED

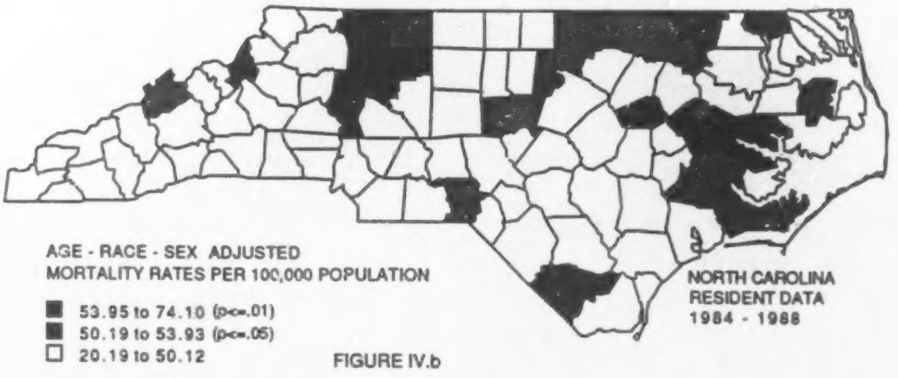

MORTALITY RATES PER 100,000 POPULATION

■ 65.41 to 90.98 ($p<=.01$)
■ 60.10 to 64.05 ($p<=.01$)
▨ 57.31 to 58.45 ($p<=.05$)
☐ 20.85 to 57.07

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE IV.a

SEPTICEMIA - MENTIONED


AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION

■ 53.95 to 74.10 ($p<=.01$)
■ 50.19 to 53.93 ($p<=.05$)
☐ 20.19 to 50.12

NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE IV.b

DIABETES MELLITUS - MENTIONED

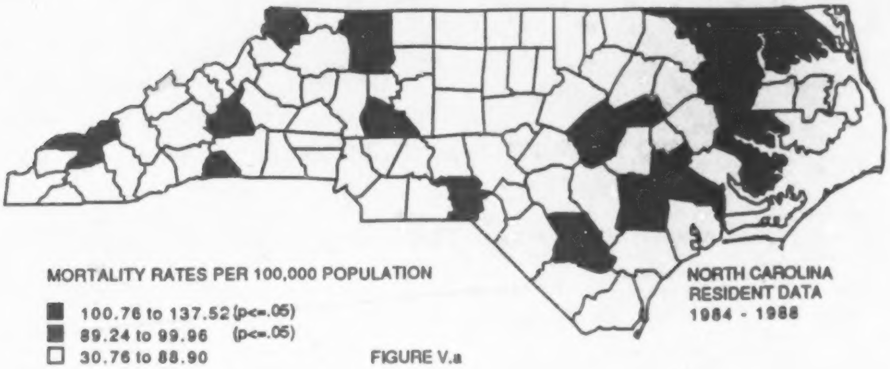

MORTALITY RATES PER 100,000 POPULATION
■ 100.76 to 137.52 (p<=.05)
▨ 89.24 to 99.96 (p<=.05)
☐ 30.76 to 88.90
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE V.a

DIABETES MELLITUS - MENTIONED

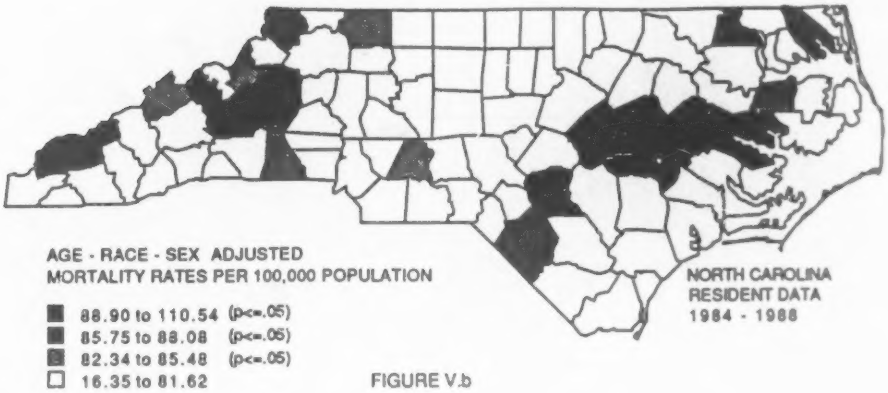

AGE - RACE - SEX ADJUSTED
MORTALITY RATES PER 100,000 POPULATION
■ 88.90 to 110.54 (p<=.05)
■ 85.75 to 88.08 (p<=.05)
▨ 82.34 to 85.48 (p<=.05)
☐ 16.35 to 81.62
NORTH CAROLINA
RESIDENT DATA
1984 - 1988

FIGURE V.b

REFERENCES FOR SECTION IX

1. North Carolina State Center for Health Statistics. Multiple Conditions Present at Death: A Special Study. June 1982.

2. Surles, Kathryn B., Sullivan, Lee A., and Nelson, Jr., M.D. Health of the Elderly in North Carolina: Population at Risk and Patterns and Trends in Mortality. North Carolina State Center for Health Statistics. SCHS Study No. 51, June 1989.

Department of Environment, Health, and Natural Resources
Division of Statistics and Information Services
P.O. Box 27687
Raleigh, N.C. 27611-7687
919/733-4728

BULK RATE
U.S. Postage
PAID
Raleigh, N.C. 27611-7687
Permit No. 1862